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14 December 2007

**VIA HAND DELIVERY**

Mr. Bruce H. Burcat
Executive Director
Delaware Public Service Commission
861 Silver Lake Blvd., Ste. 100
Dover, DE 19904

Re: *PSC Docket No. 07-186*

Dear Mr. Burcat:

Enclosed please find the original and ten (10) copies of the Direct Testimony of Staff Witnesses Brian Kalcic, Pamela R. Knotts, Richard W. LeLash, Susan Neidig, David C. Parcell, and Ralph Smith in the above-captioned docket.

Respectfully submitted,

James McC. Geddes

Enclosures
JMcCG:dlb
cc: Hon. Ruth A. Price (via electronic mail & hand delivery; w/encls.)
Janis Dillard (via electronic mail & hand delivery; w/encls.)
Susan Neidig (via electronic mail & hand delivery; w/encls.)
Pamela Knotts (via electronic mail & hand delivery; w/encls.)
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BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF DELAWARE

| | | |
|---|---|---|
| IN THE MATTER OF THE APPLICATION OF | ) | |
| CHESAPEAKE UTILITIES CORPORATION | ) | PSC DOCKET NO. 07-186 |
| FOR AN INCREASE IN ITS NATURAL GAS | ) | |
| RATES AND SERVICES AND FOR CERTAIN | ) | |
| OTHER CHANGES TO ITS NATURAL GAS | ) | |
| TARIFF (FILED JULY 6, 2007) | ) | |

# DIRECT TESTIMONY
# OF
# DAVID C. PARCELL
# ON BEHALF OF
# COMMISSION STAFF

DECEMBER 14, 2007

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# IN THE MATTER OF THE APPLICATION OF CHESAPEAKE UTILITIES CORP.
# PSC DOCKET NO. 07-186

## DIRECT TESTIMONY
## OF
## DAVID C. PARCELL

## I. INTRODUCTION

**Q. PLEASE STATE YOUR NAME, OCCUPATION, AND BUSINESS ADDRESS.**

A. My name is David C. Parcell. I am President and Senior Economist of Technical Associates, Inc. My business address is Suite 601, 1051 East Cary Street, Richmond, Virginia 23219.

**Q. PLEASE BRIEFLY DESCRIBE YOUR BACKGROUND AND EXPERIENCE.**

A. I hold B.A. (1969) and M.A. (1970) degrees in economics from Virginia Polytechnic Institute and State University (Virginia Tech) and a M.B.A. (1985) from Virginia Commonwealth University. I have been a consulting economist with Technical Associates since 1970. The majority of my consulting experience has involved the provision of cost of capital testimony in public utility ratemaking proceedings. I have previously testified in approximately 400 utility proceedings before 40 regulatory agencies in the United States and Canada, including this Commission. Appendix I provides a more complete description of my education and relevant business experience.

**Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?**

A. I have been retained by the Staff of the Delaware Public Service Commission ("Staff") to evaluate the cost of capital aspects of the current filing of Chesapeake Utilities Corporation ("Chesapeake" or "Company"). I have performed independent studies and am making recommendations of the current cost of capital for Chesapeake.

**Q. HAVE YOU PREPARED AN EXHIBIT IN SUPPORT OF YOUR TESTIMONY?**

A. Yes, I have prepared one exhibit, identified as Schedule 1 through Schedule 13. This exhibit was prepared either by me or under my direction. The information contained in this exhibit is correct to the best of my knowledge and belief.

## II. RECOMMENDATIONS

**Q. WHAT ARE YOUR RECOMMENDATIONS IN THIS PROCEEDING?**

A. My overall cost of capital recommendation for Chesapeake is shown on Schedule 1 and can be summarized as follows:

| | Percent | Cost | Return |
|---|---|---|---|
| Short-term Debt | 13.89% | 5.47% | 0.76% |
| Long-term Debt | 32.88% | 6.74% | 2.22% |
| Common Equity | 53.22% | 9.5-10.5% | 5.06-5.59% |
| Total | 100.00% | | 8.03-8.56% |
| | | | 8.30% mid-point |

This recommendation employs Chesapeake's March 31, 2007 capital structure, except for short-term debt, which utilizes a twelve month average value.

This contrasts with Chesapeake's requested cost of capital of 9.68 percent, which reflects an 11.50 percent cost of equity and a capital structure that does not contain short-term debt.

**Q. PLEASE SUMMARIZE YOUR ANALYSES AND CONCLUSIONS.**

A. This proceeding is concerned with Chesapeake's regulated natural gas distribution utility operations in Delaware. My analyses are concerned with the Company's total cost of capital. The first step in performing these analyses is the development of the appropriate capital structure. Chesapeake's proposed capital structure is an estimated March 31, 2007 capital structure. I have used this capital structure in my testimony, but with one modification – I have included short-term debt in the Company's capital structure.

The second step in a cost of capital calculation is a determination of the embedded cost rates of debt. I have used the cost rate for long-term debt proposed by Chesapeake. For the cost of short-term debt, I have used the Company's 2006 cost rate.

The third step in the cost of capital calculation is the estimation of the cost of common equity. I have employed three recognized methodologies to estimate the cost of equity for Chesapeake. Each of these methodologies is applied to two groups of proxy natural gas utilities. These three methodologies and my findings are:

| Methodology | Range | |
|---|---|---|
| Discounted Cash Flow | 9.5-10.5% | (10.0% Mid-Point) |
| Capital Asset Pricing Model | 8.5-10.0% | (9.25% Mid-Point) |
| Comparable Earnings | 10.0-10.5% | (10.25% Mid-Point) |

Based upon these findings, it is my conclusion that the cost of common equity for Chesapeake a range of 9.5 percent to 10.5 percent.

Combining these three steps into weighted costs of capital results in an overall cost of capital of 8.03 percent to 8.56 percent (i.e., mid-point rate of return of 8.30 percent that incorporates a cost of common equity of 10.0 percent).

## III. ECONOMIC/LEGAL PRINCIPLES AND METHODOLOGIES

**Q. WHAT ARE THE PRIMARY ECONOMIC AND LEGAL PRINCIPLES THAT ESTABLISH THE STANDARDS FOR DETERMINING A FAIR RATE OF RETURN FOR A REGULATED UTILITY?**

A. Public utility rates are normally established in a manner designed to allow the recovery of costs, including capital costs. This is frequently referred to as "cost of service" ratemaking. Rates for regulated public utilities traditionally have been primarily established using the "rate base - rate of return" concept. Under this method, utilities are allowed to recover a level of operating expenses, taxes, and depreciation deemed reasonable for rate-setting purposes, and are granted an opportunity to earn a fair rate of return on the assets utilized (i.e., rate base) in providing service to their customers.

The rate base is derived from the asset side of the utility's balance sheet as a dollar amount and the rate of return is developed from the liabilities/owners' equity side of the balance sheet as a percentage. Thus, the revenue impact of the cost of capital is derived by multiplying the rate base by the rate of return, including income taxes.

The rate of return is developed from the cost of capital, which is estimated by weighting the capital structure components (i.e., debt, preferred stock, and common equity) by their percentages in the capital structure and multiplying these values by their cost rates after multiplying and then adding the individual capital items' weighted percentages. This is also known as the weighted cost of capital.

Technically, "fair rate of return" is a legal and accounting concept that refers to an ex post (after the fact) earned return on an asset base, while the cost of capital is an economic and financial concept which refers to an ex ante (before the fact) expected or required return on a liability base. In regulatory proceedings, however, the two terms are often used interchangeably. I have equated the two concepts in my testimony.

From an economic standpoint, a fair rate of return is normally interpreted to mean that an efficient and economically managed utility will be able to maintain its financial integrity, attract capital, and establish comparable returns for similar risk investments. These concepts are derived from economic and financial theory and are generally implemented using financial models and economic concepts.

Although I am not a lawyer and I do not offer a legal opinion, my testimony is based on my understanding that two United States Supreme Court decisions provide the controlling standards for a fair rate of return. The first decision is Bluefield Water Works and Improvement Co. v. Public Serv. Comm'n of West Virginia, 262 U.S. 679 (1923). In this decision, the Court stated:

> What annual rate will constitute **just compensation** depends upon many circumstances and must be **determined by** the **exercise of fair and enlightened judgment**, having regard to all relevant facts. A **public utility** is entitled to such rates as will permit it to **earn a return** on the value of the property which it employs for the convenience of the public equal to that **generally being made** at the same time and in the same general part of the country on **investments in other business undertakings** which are **attended by corresponding risks and uncertainties**; but it has no **constitutional right to profits** such as are realized or anticipated in **highly profitable enterprises or speculative ventures**. The **return** should be reasonably sufficient to assure confidence in the **financial soundness** of the utility, and should be adequate, **under efficient and economical management**, to maintain and **support its credit** and **enable it to raise the money** necessary for the proper discharge of its public duties. A rate of return may be reasonable at one time, and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally. **[Emphasis added.]**

It is my understanding that the Bluefield decision established the following standards for a fair rate of return: comparable earnings, financial integrity, and capital attraction. It also noted the changing level of required returns over time as well as an underlying assumption that the utility be operated in an efficient manner.

The second decision is Federal Power Comm'n v. Hope Natural Gas Co., 320 U.S. 591 (1944). In that decision, the Court stated:

> The rate-making process under the [Natural Gas] Act, i.e., the fixing of 'just and reasonable' rates, involves a **balancing** of the **investor** and **consumer interests** . . . . From the investor or company point of view it is important that there be enough revenue not only for operating expenses but also for the capital costs of the business. These include service on the debt and dividends on the stock. By that standard the **return** to the equity **owner** should be **commensurate** with **returns** on **investments** in **other enterprises having corresponding risks**. That return, moreover, should be sufficient to assure confidence in the **financial integrity** of the enterprise, so as to **maintain its credit** and to **attract capital**. **[Emphasis added.]**

The Hope case is also frequently credited with establishing the "end result" doctrine, which maintains that the methods utilized to develop a fair return are not important as long as the end result is reasonable.

The three economic and financial parameters in the Bluefield and Hope decisions - comparable earnings, financial integrity, and capital attraction - reflect the economic criteria encompassed in the "opportunity cost" principle of economics. The opportunity cost principle provides that a utility and its investors should be afforded an opportunity (not a guarantee) to earn a return commensurate with returns they could expect to achieve on investments of similar risk. The opportunity cost principle is consistent with the fundamental premise, on which regulation rests, namely, that it is intended to act as a surrogate for competition.

**Q. HOW CAN THESE PARAMETERS BE EMPLOYED TO ESTIMATE THE COST OF CAPITAL FOR A UTILITY?**

A. Neither the courts nor economic/financial theory have developed exact and mechanical procedures for precisely determining the cost of capital. This is the case because the cost of capital is an opportunity cost and is prospective-looking, which dictates that it must be estimated.

There are several useful models that can be employed to assist in estimating the cost of equity capital, which is the capital structure item that is the most difficult to determine. These include the discounted cash flow ("DCF"), capital asset pricing model ("CAPM"), comparable earnings ("CE") and risk premium ("RP") methods. Each of these methods (or models) differs from the others and each, if properly employed, can be a useful tool in estimating the cost of common equity for a regulated utility.

**Q. WHICH METHODS HAVE YOU EMPLOYED IN YOUR ANALYSES OF THE COST OF COMMON EQUITY IN THIS PROCEEDING?**

A. I have utilized three methodologies to determine Chesapeake's cost of common equity: the DCF, CAPM, and CE methods. I have not employed a RP model in my analyses although, as discussed below, CAPM analysis is a form of the RP methodology. Each of these methodologies will be described in more detail in my testimony that follows.

## IV. GENERAL ECONOMIC CONDITIONS

**Q. WHY ARE ECONOMIC AND FINANCIAL CONDITIONS IMPORTANT IN DETERMINING THE COSTS OF CAPITAL?**

A. The costs of capital, for both fixed-cost (debt and preferred stock) components and common equity, are determined in part by current and prospective economic and financial conditions. At any given time, each of the following factors has an influence on the costs of capital: the level of economic activity (i.e., growth rate of the economy), the stage of the business cycle (i.e., recession, expansion, or transition), and the level of inflation. My understanding is that use of these factors is consistent with the Supreme Court's Bluefield decision, which noted that "[a] rate of return may be reasonable at one time, and become too high or too low by changes affecting opportunities for investment, the money market, and business conditions generally."

**Q. WHAT INDICATORS OF ECONOMIC AND FINANCIAL ACTIVITY HAVE YOU EVALUATED IN YOUR ANALYSES?**

A. I have examined several sets of economic statistics from 1975 to the present. I chose this time period because it permits the evaluation of economic conditions over three full business cycles plus the current cycle to date allowing for assessment of changes in long-term trends. This period also approximates the beginning and continuation of active rate case activities by public utilities.

A business cycle is commonly defined as a complete period of expansion (recovery and growth) and contraction (recession). A full business cycle is a useful and convenient period over which to measure levels and trends in long-term capital costs because it incorporates the cyclical (i.e., stage of business cycle) influences, and thus, permits a comparison of structural (or long-term) trends.

**Q. PLEASE DESCRIBE THE TIMEFRAME OF THE THREE PRIOR BUSINESS CYCLES AND THE MOST CURRENT CYCLE.**

A. The three prior complete cycles and current cycle cover the following periods:

| Business Cycle | Expansion Cycle | Contraction Period |
|---|---|---|
| 1975-1982 | Mar. 1975-July 1981 | Aug. 1981-Oct. 1982 |
| 1982-1991 | Nov. 1982-July 1990 | Aug. 1990-Mar. 1991 |
| 1991-2001 | Apr. 1991-Mar. 2001 | Apr. 2001-Nov. 2001 |
| Current | Dec. 2001-Present | |

**Q. DO YOU HAVE ANY GENERAL OBSERVATIONS CONCERNING THE CHANGING TRENDS IN ECONOMIC CONDITIONS AND THEIR IMPACT ON COSTS OVER THIS BROAD PERIOD?**

A. Yes, I do. As I will describe below, the U.S. economy has enjoyed general prosperity and stability over the period since the early 1980s. This period has been characterized by longer economic expansions, relatively tame contractions, relatively low and declining inflation, and declining interest rates and other capital costs. The current business cycle began in late 2001, following a somewhat modest recession earlier in the year. During the recession and early in the succeeding expansion, the Federal Reserve lowered short-term interest rates (i.e., Federal Funds rate) 11 times in 2001 and twice in 2003 in an effort to stimulate the economy.

**Q. PLEASE DESCRIBE RECENT AND CURRENT ECONOMIC AND FINANCIAL CONDITIONS AND THEIR IMPACT ON THE COSTS OF CAPITAL.**

A. Schedule 2 shows several sets of economic data. Pages 1 and 2 contain general macroeconomic statistics while Pages 4 through 6 contain financial market statistics. Pages 1 and 2 of Schedule 2 show that the U.S. economy is currently in the sixth year of an economic expansion. This is indicated by the growth in real (i.e., adjusted for inflation) Gross Domestic Product, industrial production, and the unemployment rate. This current expansion has generally been characterized as slower growth, in comparison to prior expansions. This has resulted in lower inflationary pressures and interest rates.

The rate of inflation is also shown on Pages 1 and 2 of Schedule 2. As is reflected in the Consumer Price Index ("CPI"), for example, inflation rose significantly during the 1975-1982 business cycle and reached double-digit levels in 1979-1980. The rate of inflation declined substantially in 1981 and remained at or below 6.1 percent during the 1983-1991 business cycle. Since 1991, the CPI has been 3.4 percent or lower. The 2.5

percent rate of inflation in 2006 was similar to the levels since 2000 and is well below the levels of the past thirty years.

**Q. WHAT HAVE BEEN THE TRENDS IN INTEREST RATES?**

A. Pages 3 and 4 of Schedule 2 show several series of interest rates. Rates rose sharply to record levels in 1975-1981 when the inflation rate was high and generally rising. Interest rates declined substantially in conjunction with inflation rates throughout the remainder of the 1980s throughout the 1990s. Interest rates declined even further from 2000-2005 and generally recorded their lowest levels since the 1960s.

This low level of interest rates, in conjunction with the recent strength of the U.S. economy, may have created an expectation over the past few years that any near-term movement of interest rates will be upward. In fact, the Federal Reserve increased short-term interest rates on 17 occasions since the middle of 2004, although each time by only 0.25 percent, in an attempt to ensure that any perceived inflationary expectations will not stifle continued economic growth. Nevertheless, the economic recovery to date has not resulted in a pronounced increase in long-term rates. Most recently, however, the Federal Reserve has twice lowered the Federal Funds rate (i.e., short-term rate) by 50 basis points and 25 basis points.

**Q. WHAT HAVE BEEN THE TRENDS IN COMMON SHARE PRICES?**

A. Pages 5 and 6 of Schedule 2 show several series of common stock prices and ratios. These indicate that share prices were essentially stagnant during the high inflation/interest rate environment of the late 1970s and early 1980s. On the other hand, the 1983-1991 business cycle and the most recent cycle have witnessed a significant upward trend in stock prices. During the initial years of the current expansion, however, stock prices were volatile and declined substantially from their highs reached in 1999 and early 2000. Share prices have increased somewhat since 2003 and currently stand near record high levels.

**Q. WHAT CONCLUSIONS DO YOU DRAW FROM THIS DISCUSSION OF ECONOMIC AND FINANCIAL CONDITIONS?**

A. It is apparent that capital costs are currently low in comparison to the levels that have prevailed over the past three decades. In addition, even a moderate increase in interest rates, as well as other capital costs, would result in capital costs that are low by historic standards. Therefore, it can reasonably be expected that cost of equity models currently produce returns that are lower than returns experienced in prior years.

## V. CHESAPEAKE'S OPERATIONS AND RISKS

**Q. PLEASE SUMMARIZE CHESAPEAKE AND ITS OPERATIONS.**

A. Chesapeake is a diversified utility company engaged primarily in natural gas distribution and transmission, propane distribution and marketing, and providing advanced information services.

Chesapeake provides natural gas distribution services in three divisions - Delaware, Maryland's Eastern Shore, and Florida. Its natural gas transmission subsidiary is Eastern Shore Natural Gas Company, which operates an interstate pipeline system that transports natural gas from Pennsylvania to the Company's Delaware and Maryland distribution divisions, as well as other customers.

Chesapeake's propane distribution operations are in central and southern Delaware, the Eastern Shore of Maryland and Virginia, southeastern Pennsylvania, and parts of Florida. The Company's advanced information services segment provides information technology related business services and solutions for national and international clients.

**Q. WHAT HAS BEEN THE TREND IN CHESAPEAKE'S BUSINESS SEGMENT RATIOS IN RECENT YEARS?**

A. This is shown on Schedule 3. As indicated, the natural gas distribution and transmission activities of Chesapeake accounted for the following percentages:

| | Operating Revenues | Operating Income | Capital Expenditures | Assets |
|---|---|---|---|---|
| 2002 | 69% | 90% | 88% | 74% |
| 2003 | 67% | 77% | 77% | 77% |
| 2004 | 70% | 86% | 78% | 76% |
| 2005 | 72% | 80% | 85% | 76% |
| 2006 | 74% | 86% | 89% | 78% |

This indicates that Chesapeake's natural gas and transmission operations account for the majority (i.e., 67% - 90%) of operating income, capital expenditures and assets. This indicates that Chesapeake's operations are largely that of a gas distribution company. In addition, the higher level of operating income, as compared to operating revenues, indicates that the natural gas operations of Chesapeake are more profitable than the other operations.

**Q. IS IT POSSIBLE TO COMPARE CHESAPEAKE'S RISKS TO OTHER NATURAL GAS DISTRIBUTION COMPANIES?**

A. Not to the same extent as many other local distribution companies ("LDCs"). Chesapeake's debt is not rated by the major rating agencies - Moody's and Standard & Poor's. As a result, it is not feasible to compare the Company's bond ratings to other LDCs. I do note that Mr. Moul maintains that (page 13) Chesapeake's NAIC designation of "1" is equivalent to an A rating, which is similar to the average of LDCs. Chesapeake does have a Standard & Poor's stock ranking of B+, which is consistent with the average stock ranking of various comparison groups described later in my testimony. I note that Chesapeake is contained in the "expanded" edition of Value Line, such that its beta and safety can be compared to other LDCs. My Schedule 11 indicates that the Company has similar risk indicators to the other LDCs.

I conclude from this analysis that Chesapeake is perceived to have average risk in comparison to LDCs in general. I note that Mr. Moul's "fundamental risk analysis" concludes that Chesapeake is more risky than his Gas Group. I note, however, that Mr. Moul's cost of capital conclusions inherently accept Chesapeake as an average risk LDC.

**Q. ARE THERE ANY ASPECTS OF CHESAPEAKE'S APPLICATION IN THIS PROCEEDING THAT HAS AN IMPACT ON THE COMPANY'S RISK?**

A. Chesapeake is requesting an "alternative rate design" for current and potential residential customers in its eastern Sussex County expansion rate area. As I understand Chesapeake's proposal, it is requesting that its rates in this designated area be different from the rates in its other Delaware service areas. Further, these rates are not based on traditional rate base-rate of return principles, but rather are tied to the current price of an alternative fuel (i.e., propane). Chesapeake maintains its risk profile is greater due to its Eastern Sussex County expansion plans. It is my understanding that Staff Witness Rick LeLash is not endorsing this rate design.

**Q. ARE THERE ANY OTHER ASPECTS OF CHESAPEAKE'S APPLICATION THAT HAVE COST OF CAPITAL IMPLICATIONS?**

A. Yes, there are. Chesapeake is also requesting to increase the Company's proposed return on equity for quarterly rate of return monitoring purposes (i.e., to 15 percent from 10.86 percent). This is also requested "to compensate investors for the added risk of the eastern Sussex County expansion.

**Q. DO YOU AGREE THAT CHESAPEAKE SHOULD RECEIVE ANY "RISK" COMPENSATION DUE TO ITS EASTERN SUSSEX COUNTY EXPANSION?**

A. No, I do not. Chesapeake's proposed expansion into eastern Sussex County is a management decision by Chesapeake. The Company's existing ratepayers do not have the opportunity to provide input regarding Company's expansion plans and existing ratepayers have potential exposure to increased plant and capacity costs from this proposed expansion. At best, there is a sharing of risks by Chesapeake's shareholders and ratepayers.

In any event, I believe it would be improper to ask ratepayers to pay higher rates for any perceived risks of eastern Sussex County expansion. Requiring ratepayers to pay higher rates is tantamount to transferring all of the perceived risk to ratepayers.

I further note that it is improper to focus on one specific perceived risk, while ignoring other factors that have the impact of reducing the Company's risks. For example, Chesapeake, Staff and other parties are currently involved in a generic proceeding involving the potential "decoupling" of rates (i.e., PSC Regulation Docket No. 59). The outcome of this proceeding could result in regulatory mechanisms that reduce Chesapeake's risks. Those factors, which are risk-reducing to Chesapeake, may well offset any perceived risk of the Eastern Essex County expansion.

## VI. CAPITAL STRUCTURE AND COST OF DEBT

**Q. WHAT IS THE IMPORTANCE OF DETERMINING A PROPER CAPITAL STRUCTURE IN A REGULATORY FRAMEWORK?**

A. A utility's capital structure is important since the concept of rate base - rate of return regulation requires that a utility's capital structure be determined and utilized in estimating the total cost of capital. Within this framework, it is proper to ascertain whether the utility's capital structure is appropriate relative to its level of business risk and relative to other utilities.

As discussed in Section III of my testimony, the purpose of determining the proper capital structure for a utility is to help ascertain the capital costs of the company. The rate base - rate of return concept recognizes the assets which are employed in providing utility services and provides for a return on these assets by identifying the liabilities and common equity (and their cost rates) which are used to finance the assets. In this process, the rate base is derived from the asset side of the balance sheet and the cost of capital is derived from the liabilities/owners' equity side of the balance sheet. The inherent assumption in this procedure is that the dollar values of the capital structure and the rate base are approximately equal and the former is utilized to finance the latter.

The common equity ratio (i.e., the percentage of common equity in the capital structure) is the capital structure item which normally receives the most attention. This is the case because common equity: (1) usually commands the highest cost rate; (2) generates associated income tax liabilities; and (3) causes the most controversy because its cost cannot be precisely determined.

**Q. HOW HAVE YOU EVALUATED THE CAPITAL STRUCTURE OF CHESAPEAKE?**

A. I have examined the five year historic (2002-2006) and March 31, 2007 capital structure ratios of Chesapeake. These are shown on Schedule 4.

I have summarized below the common equity ratios for Chesapeake for the past five years, plus March 31, 2007:

| | Including S-T Debt | Excluding S-T Debt |
|---|---|---|
| 2002 | 43.4% | 47.9% |
| 2003 | 48.8% | 51.2% |
| 2004 | 51.4% | 54.3% |
| 2005 | 46.2% | 59.2% |
| 2006 | 51.2% | 61.1% |
| March, 2007 | 54.5% | 62.9% |

**Q. HOW DO THESE CAPITAL STRUCTURE RATIOS COMPARE TO THE GAS DISTRIBUTION UTILITY INDUSTRY?**

A. I have prepared Schedule 5 to make this comparison. Page 1 of this schedule shows the 2002-2006 capital structure ratios of the Value Line group of LDC's, excluding short-term debt. Page 2 of Schedule 5 indicates the 2002-2006 capital structure ratios for this group, including short-term debt. The average ratios are:

| Year | Excluding S-T Debt | Including S-T Debt |
|---|---|---|
| 2002 | 47.4% | 41% |
| 2003 | 50.4% | 43% |
| 2004 | 51.4% | 43% |
| 2005 | 51.9% | 44% |
| 2006 | 53.1% | 48% |

These common equity ratios are generally lower than those of Chesapeake.

**Q. WHAT CAPITAL STRUCTURE RATIO HAS CHESAPEAKE REQUESTED IN THIS PROCEEDING?**

A. The Company requests use of the following capital structure:

| Capital Item | Percentage |
|---|---|
| Long-Term Debt | 38.19% |
| Common Equity | 61.81% |

According to Chesapeake witness Moul, these values are the estimated March 31, 2007 consolidated capital structure ratios of Chesapeake.

**Q. WHAT CAPITAL STRUCTURE DO YOU PROPOSE TO USE IN THIS PROCEEDING?**

A. I will utilize the consolidated test period capital structure of Chesapeake. Schedule 1 shows the consolidated capital structure ratios of Chesapeake as of March 31, 2007. I have modified the Company's proposed capital structure to include short-term debt (average monthly amount of short-term debt for the 12 months ending March 31, 2007). My recommended capital structure is:

| | |
|---|---|
| Short-Term Debt | 13.89% |
| Long-Term Debt | 32.88% |
| Common Equity | 53.22% |

My capital structure thus differs from Chesapeake's proposed capital structure because I include short-term whereas the Company does not.

**Q. WHY DO YOU BELIEVE IT IS APPROPRIATE TO INCLUDE SHORT-TERM DEBT IN CHESAPEAKE'S CAPITAL STRUCTURE?**

A. It is apparent that Chesapeake has consistently utilized short-term debt in recent years. The Company's response to Staff Data Request COC-7 indicates that Chesapeake has had monthly balances of short-term debt every month since August, 2005. Furthermore, it is apparent that Chesapeake has maintained short-term debt balances of at least $14 million on a monthly basis since October 2005.

**Q. DID YOU RECOMMEND THE INCLUSION OF SHORT-TERM DEBT IN CHESAPEAKE'S CAPITAL STRUCTURE IN THE COMPANY'S 2001 RATE PROCEEDING?**

A. Yes, I did.

**Q. DID THE "SETTLEMENT AGREEMENT" IN THAT PROCEEDING USE A CAPITAL STRUCTURE THAT INCLUDED SHORT-TERM DEBT?**

A. Yes, it did.

**Q. SINCE 2001, HAS CHESAPEAKE'S USE OF SHORT-TERM DEBT CHANGED?**

A. Yes, it has. The level of short-term debt in the 2001 Stipulation Agreement was 6.4 percent. My Schedule 4 indicates that the Company's level and percentage of short-term debt has grown in recent years.

**Q. HAS CHESAPEAKE INDICATED TO THE COMMISSION THAT IT INTENDS TO CONTINUE USING SHORT-TERM DEBT?.**

A. Yes, it has. PSC Regulation Docket No. 23, which dates back to 1990, established regulations for Delaware public utilities in connection with the incurrence of short-term debt. As part of these regulations, public utilities are required to notify the Commission prior to the incurrence of short-term indebtedness beyond specified limits (i.e., 10 percent). Chesapeake, like other Delaware public utilities, has routinely filed notices with the Commission in this regard. In its "Notice of Financing Plans and Intent to Incur Short-Term Indebtedness", dated January 17, 2007, Chesapeake indicated that it "will continue to utilize its short-term borrowing capabilities under its existing lines of credit with several banks." This is also indicative of Chesapeake's continued use of short-term debt in its capitalization.

**Q. WHAT IS THE COST OF LONG-TERM DEBT IN THE COMPANY'S APPLICATION?**

A. The Company's filing cites a long-term debt cost of 6.74 percent. I use this cost rate in my cost of capital analyses.

**Q. WHAT COST RATE DO YOU USE FOR SHORT-TERM DEBT?**

A. For the cost of short-term debt, I use the 5.47 percent cost of bank loans cited in Chesapeake's 2006 annual report. I note that interest rates are now lower than they were during 2006.

**Q. CAN THE COST OF COMMON EQUITY BE DETERMINED WITH THE SAME DEGREE OF PRECISION AS THE COSTS OF DEBT?**

A. No. The cost rates of debt are largely determined by interest payments, issue prices, and related expenses. Even though alternative methodologies exist for determining the embedded cost rate, the cost rate for debt is generally agreed to, at least within a relatively small range.

The cost of common equity, on the other hand, is not susceptible of specific measurement, primarily because this cost is an opportunity cost. There are, however, several models which can be employed to estimate the cost of common equity. Three of the primary methods - DCF, CAPM, and CE - are developed in the following sections of my testimony.

## VII. SELECTION OF COMPARISON GROUPS

**Q. HOW HAVE YOU ESTIMATED THE COST OF COMMON EQUITY FOR CHESAPEAKE?**

A. Chesapeake is a publicly-traded company. Consequently, it is possible to directly apply cost of equity models to Chesapeake. However, it is customary to analyze groups of comparison or "proxy" companies to determine the cost of common equity for public utilities.

I have examined two such groups for comparison to Chesapeake. The first group of proxy companies is the group of gas distribution companies followed by Value Line, except for those companies that have not paid cash dividends. This group, which reflects a representative sample of LDCs, is a proper proxy for Chesapeake.

The second proxy group is the group of seven natural gas utilities Mr. Moul utilized in his testimony.

I note that, by developing my own group of proxy companies, used in conjunction with the groups of proxy companies utilized by Chesapeake witness Moul, I have given consideration to the Company's view as to the composition of the proper proxy companies for Chesapeake.

## VIII. DISCOUNTED CASH FLOW ANALYSIS

**Q. WHAT IS THE THEORY AND METHODOLOGICAL BASIS OF THE DISCOUNTED CASH FLOW MODEL?**

A. The discounted cash flow ("DCF") model is one of the oldest, as well as the most commonly-used, models for estimating the cost of common equity for public utilities. The DCF model is based on the "dividend discount model" of financial theory, which maintains that the value (price) of any security is derived from the present value of all future cash flows.

The DCF equation is as follows:

$$K = \frac{D}{P} + g$$

where:
P = current price
D = current dividend rate
K = discount rate (cost of capital)
g = constant rate of expected growth

This formula essentially states that the return expected or required by investors is comprised of two factors: the dividend yield (current income) and expected growth in dividends (future income).

**Q. PLEASE EXPLAIN HOW YOU HAVE EMPLOYED THE DCF MODEL.**

A. I have utilized the constant growth DCF model. In doing so, I have combined the current dividend yield for each group of comparison utility stocks described in the previous section with several indicators of expected dividend growth.

**Q. HOW DID YOU DERIVE THE DIVIDEND YIELD COMPONENT OF THE DCF EQUATION?**

A. There are several methods which can be used for calculating the dividend yield component. These methods generally differ in the manner in which the dividend rate is employed, i.e., current versus future dividends or annual versus quarterly compounding of dividends. I believe the most appropriate dividend yield component is a quarterly compounding variant which is expressed as follows:

$$Yield = \frac{D_0(1+0.5g)}{P_0}$$

This dividend yield component recognizes the timing of dividend payments and dividend increases. This formula essentially recognizes that, on average, each proxy company is expected to increase its dividend by the expected growth rate at the middle of the next year, which is a reasonable assumption given that individual companies will increase dividends at various times throughout the year. As such, this yield calculation provides for a proper mechanism for estimating the expected dividend yield in the next year.

The $P_0$ in my yield calculation is the average (of high and low) stock price for each company for the most recent three-month period (August-October, 2007). The $D_0$ is the current annualized dividend rate for each company.

**Q. HOW HAVE YOU ESTIMATED THE DIVIDEND GROWTH COMPONENT OF THE DCF EQUATION?**

A. The dividend growth rate component of the DCF model is usually the most crucial and controversial element involved in this methodology. The objective of estimating the dividend growth component is to reflect the growth expected by investors which is embodied in the price (and yield) of a company's stock. As such, it is important to recognize that individual investors have different expectations and consider alternative indicators in deriving their expectations. A wide array of techniques exist for estimating the growth expectations of investors. As a result, it is evident that no single indicator of growth is always used by all investors. It therefore is necessary to consider alternative indicators of dividend growth in deriving the growth component of the DCF model.

I have considered five indicators of growth in my DCF analyses. These are:

1. 2002-2006 (5 year average) earnings retention, or fundamental growth; [1]
2. 5 year average of historic growth in earnings per share ("EPS"), dividends per share ("DPS"), and book value per share ("BVPS");
3. 2007-2011 projections of earnings retention growth;

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[1] This is also known as the internal growth, or BxR.

4. 2005-2011 projections of EPS, DPS, and BVPS; and
5. 5 year projections of EPS growth as reported in First Call (formerly I/B/E/S).

This combination of growth indicators is a representative and appropriate set with which to estimate investor expectations of dividend growth for the groups of comparison companies.

**Q. PLEASE DESCRIBE YOUR DCF CALCULATIONS.**

A. Schedule 6 presents my DCF analysis. Page 1 shows the calculation of the "raw" (i.e., prior to adjustment for growth) dividend yield. Pages 2-3 show the growth rate for the groups of comparison companies. Page 4 shows the DCF calculations, which are presented on several bases: mean, median and high values. These results can be summarized as follows:

| | Mean | Median | High Value |
|---|---|---|---|
| Comparison Group | 9.2% | 8.8% | 10.5% |
| Moul Gas Group | 8.0% | 7.8% | 9.5% |

I note that these calculations should not be interpreted as my DCF conclusions, but rather as numeric values that form the basis of quantitative and qualitative analyses of the cost of capital at the current time.

**Q. WHAT DO YOU CONCLUDE FROM YOUR DCF ANALYSES?**

A. Based upon my analyses, I believe a range of 9.5 percent to 10.5 percent (10.0 percent mid-point) represents the current DCF cost of equity for the comparison groups. This is approximated by the upper portion of the range of DCF calculations for the natural gas groups examined in the previous analysis.

## IX. CAPITAL ASSET PRICING MODEL ANALYSIS

**Q. PLEASE DESCRIBE THE THEORY AND METHODOLOGICAL BASIS OF THE CAPITAL ASSET PRICING MODEL.**

A. The Capital Asset Pricing Model ("CAPM") is a version of the risk premium method. The CAPM describes and measures the relationship between a security's investment risk and its market rate of return. The CAPM was developed in the 1960s and 1970s as an extension of modern portfolio theory ("MPT"), which studies the relationships among risk, diversification, and expected returns.

**Q. HOW IS THE CAPM DERIVED?**

A. The general form of the CAPM is:

$$K = R_f + \beta(R_m - R_f)$$

where: K = cost of equity

$R_f$ = risk free rate

$R_m$ = return on market

$\beta$ = beta

$R_m$-$R_f$ = market risk premium

As noted previously, the CAPM is a variant of the risk premium method. I believe the CAPM is generally superior to the simple risk premium method because the CAPM specifically recognizes the risk of a particular company or industry, whereas the simple risk premium method does not.

**Q. WHAT GROUPS OF COMPANIES HAVE YOU UTILIZED TO PERFORM YOUR CAPM ANALYSES?**

A. I have performed CAPM analyses for the same groups of utilities evaluated in my DCF analyses.

**Q. WHAT RATE DID YOU USE FOR THE RISK-FREE RATE?**

A. The first term of the CAPM is the risk free rate ($R_f$). The risk-free rate reflects the level of return that can be achieved without accepting any risk.

In reality, a truly riskless asset does not exist. In CAPM applications, the risk-free rate is generally recognized by use of U.S. Treasury securities. This follows because Treasury securities are default-free as a result of the government's ability to print money and/or raise taxes to pay its debts.

Two types of Treasury securities are often utilized as the $R_f$ component - short-term U.S. Treasury bills and long-term U.S. Treasury bonds. I have performed CAPM calculations using the three-month average yield (August-October, 2007) for 20-year U.S. Treasury bonds. Over this three-month period, these bonds had an average yield of 4.89 percent.

**Q. WHAT BETAS DID YOU EMPLOY IN YOUR CAPM?**

A. I utilized the most recent Value Line betas for each company in the groups of comparison utilities.

**Q. HOW DID YOU ESTIMATE THE MARKET RISK PREMIUM COMPONENT?**

A. The market risk premium component ($R_m$-$R_f$) represents the investor-expected premium of common stocks over the risk-free rate, or government bonds. For the purpose of estimating the market risk premium, I considered returns of the S&P 500 (a broad-based group of large U.S. companies) and 20-year U.S. Treasury bonds.

Schedule 7 shows the return on equity for the S&P 500 group for the period 1978-2006 (all available years reported by S&P). This Schedule also indicates the annual yields on 20-Year U.S. Treasury bonds, as well as the annual differentials (i.e., risk premiums) between the S&P 500 and U.S. Treasury 20-Year bonds. Based upon these returns, I conclude that the risk premium is about 6.4 percent.

I have also considered the total returns for the S&P 500 group as well as for long-term government bonds, as tabulated by Ibbotson Associates, using both arithmetic and geometric means. I have considered the total returns for the entire 1926-2006 period, which are as follows:

| | S&P 500 | L-T Gov't Bonds | Risk Premium |
|---|---|---|---|
| Arithmetic | 12.3% | 5.8% | 6.5% |
| Geometric | 10.4% | 5.5% | 4.9% |

I conclude from this that the expected risk premium is about 5.9 percent (i.e., average of all three risk premiums). I believe that a combination of arithmetic and geometric means is appropriate because investors have access to both types of means and, presumably, both types are reflected in investment decisions and thus stock prices and cost of capital.

**Q. PLEASE DESCRIBE THE RESULTS OF YOUR CAPM ANALYSIS.**

A. Schedule 8 shows my CAPM results. The results are as follows:

| | Mean | Median |
|---|---|---|
| Comparison Group | 9.9% | 9.9% |
| Moul Gas Group | 8.6% | 8.7% |

**Q. WHAT IS YOUR CONCLUSION CONCERNING THE CAPM COST OF EQUITY?**

A. The CAPM results collectively indicate a cost of about 8.5 percent to 10.0 percent for the two groups of comparison utilities.

## X. COMPARABLE EARNINGS ANALYSIS

**Q. PLEASE DESCRIBE THE BASIS OF THE COMPARABLE EARNINGS METHODOLOGY.**

A. The Comparable Earnings ("CE") method is derived from the "corresponding risk" standard of the Bluefield and Hope cases. Thus, this method is based upon the economic concept of opportunity cost. As previously noted, the cost of capital is an opportunity cost: the prospective return available to investors from alternative investments of similar risk.

The CE method is designed to measure the returns expected to be earned on the original cost book value of similar risk enterprises. Thus, this method provides a direct measure of the fair return, because the CE method translates into practice the competitive principle underlying regulation.

The CE method normally examines the experienced and/or projected returns on book common equity. The logic for examining returns on book equity follows from the use of original cost rate base regulation for public utilities, which uses a utility's book common equity to determine the cost of capital. This cost of capital is, in turn, used as the fair rate of return which is then applied (multiplied) to the book value of rate base to establish the dollar level of capital costs to be recovered by the utility. Thus, this technique is consistent with the rate base methodology used to set utility rates.

**Q. HOW HAVE YOU EMPLOYED THE CE METHODOLOGY IN YOUR ANALYSIS OF CHESAPEAKE UTILITY'S COMMON EQUITY COST?**

A. I conducted the CE methodology by examining realized returns on equity for several groups of companies and evaluating the investor acceptance of these returns by reference to the resulting market-to-book ratios. In this manner, it is possible to assess the degree to which a given level of return equates to the cost of capital. It is generally recognized for utilities that market-to-book ratios of greater than one (i.e., 100%) reflect a situation where a company is able to attract new equity capital without dilution (i.e., above book value). As a result, one objective of a fair cost of equity is the maintenance of stock prices above book value.

I would further note that the CE analysis, as I have employed it, is based upon market data (through the use of market-to-book ratios) and is, thus, essentially a market test. As a result, my analysis is not subject to the criticisms occasionally made by some who maintain that past earned returns do not represent the cost of capital. In addition, my analysis uses prospective returns and, accordingly, is not confined to historical data.

**Q. WHAT TIME PERIODS HAVE YOU EXAMINED IN YOUR CE ANALYSIS?**

A. My CE analysis considers the experienced equity returns of the proxy groups of utilities for the period 1992-2006 (i.e., past fifteen years). The CE analysis requires that I examine a relatively long period of time in order to determine trends in earnings over at least a full business cycle. Further, in estimating a fair level of return for a future period, it is important to examine earnings over a diverse period of time in order to avoid any undue influence from unusual or abnormal conditions that may occur in a single year or shorter period. Therefore, in forming my judgment of the current cost of equity, I have focused on two periods: 2002-2006 (the past five years - the average length of a business cycle) and 1992-2001 (the most recent complete business cycle).

**Q. PLEASE DESCRIBE YOUR CE ANALYSIS.**

A. Schedules 9 and 10 contain summaries of experienced returns on equity for several groups of companies, while Schedule 11 presents a risk comparison of utilities versus unregulated firms.

Schedule 9 shows the earned returns on average common equity and market-to-book ratios for the two groups of proxy utilities. These can be summarized as follows:

| | Historic | | Prospective |
|---|---|---|---|
| Group | ROE | M/B | ROE |
| Proxy Group | 11.9-13.1% | 180-195% | 12.2-12.7% |
| Moul Gas Group | 11.2-11.3% | 159-176% | 11.5-12.3% |

These results indicate that historic returns of 11.2-13.1 percent have been adequate to produce market-to-book ratios of 159-195 percent for the groups of proxy utilities. Furthermore, projected returns on equity for 2007, 2008, and 2010-2012 are within a range of 11.5 percent to 12.7 percent for the utility groups. These relate to 2006 market-to-book ratios of 189 percent or higher.

**Q. HAVE YOU ALSO REVIEWED EARNINGS OF UNREGULATED FIRMS?**

A. Yes. As an alternative, I also examined a group of largely unregulated firms. I have examined the Standard & Poor's 500 Composite group, because this is a well recognized group of firms that is widely utilized in the investment community and is indicative of the competitive sector of the economy. Schedule 10 presents the earned returns on equity and market-to-book ratios for the S&P 500 group over the past fifteen years. As this Schedule indicates, over the two periods this group's average earned returns ranged from 14.1 percent to 14.7 percent with market-to-book ratios ranging between 284 percent and 341 percent.

**Q. HOW CAN THE ABOVE INFORMATION BE USED TO ESTIMATE THE COST OF EQUITY FOR CHESAPEAKE UTILITIES?**

A. The recent earnings of the proxy utility and S&P 500 groups can be utilized as an indication of the level of return realized and expected in the regulated and competitive sectors of the economy. In order to apply these returns to the cost of equity for proxy utilities, however, it is necessary to compare the risk levels of the utility industry with those of the competitive sector. I have done this in Schedule 11, which compares several risk indicators for the S&P 500 group and the utility groups. The information in this schedule indicates that the S&P 500 group is more risky than the utility proxy groups.

**Q. WHAT RETURN ON EQUITY IS INDICATED BY THE CE ANALYSIS?**

A. Based on the recent earnings and market-to-book ratios, I believe the CE analysis indicates that the cost of equity for the proxy utilities is no more than 10.0 percent to 10.5 percent (10.25 percent mid-point). Recent returns of 11.2-13.1 percent have resulted in market-to-book ratios of about 160 percent and greater. Prospective returns of 11.5-12.7 percent result in anticipated market-to-book ratios of 190 percent or more. As a result, it is apparent that returns below this level would result in market-to-book ratios of well above 100 percent. Accordingly, an earned return of 10.0 percent to 10.5 percent should result in a market-to-book ratio of over 100 percent. As I indicated earlier, the fact that market-to-book ratios substantially exceed 100 percent indicates that historic and prospective returns of 11.2 percent to 13.1 percent reflect earnings levels that exceed the cost of equity for those regulated companies.

In applying the CE analysis, it also is important to recognize recent trends. My recommended range of 10.0 percent to 10.5 percent is further supported by the actual newly authorized returns on common equity from 2002 through June 2007, which are as follows for U.S. natural gas utilities as authorized by state regulatory agencies:

| Year | ROE | No. of Decisions |
|---|---|---|
| 2002 | 11.03% | 21 |
| 2003 | 10.99% | 25 |
| 2004 | 10.59% | 20 |
| 2005 | 10.46% | 26 |
| 2006 | 10.43% | 16 |
| 2007 (6 months) | 10.34% | 15 |

Source: Regulatory Research Associates, "Regulatory Focus" July 3, 2007.

Please also note that my CE analysis is not based on a mathematical formula approach, as are the DCF and CAPM methodologies. Rather, it is based on recent trends and current conditions in equity markets. Further, it is based on the direct relationship between returns on common stock and market-to-book ratios of common stock. In utility rate setting, a fair rate of return is based on the utility's assets (i.e., rate base) and the book value of the utility's capital structure. As stated earlier, maintenance of a financially stable utility's market-to-book ratio at 100%, or a bit higher, is fully adequate to maintain the utility's financial stability. On the other hand, a market price of a utility's common stock that is 200 percent or more above the stock's book value is indicative of earnings that exceed the utility's reasonable cost of capital. Thus, actual or projected earnings do not directly translate into a utility's reasonable cost of equity. Rather, they must be viewed in relation to the market-to-book ratios of the utility's common stock.

My 10.0 percent to 10.5 percent CE recommendation reflects the fact that historic equity returns of 11.2 percent to 13.1 percent have resulted in market-to-book ratios of 160 percent, which demonstrates that the equity returns exceed the cost of capital. Likewise, projected returns of about 11.5 percent to 12.7 percent relate to 2006 market-to-book ratios of 190 percent. My 10.0 percent to 10.5 percent CE recommendation is not designed to result in market-to-book ratios as low as 1.0 for Chesapeake. Rather, it is based on current market conditions and the proposition that ratepayers should not be required to pay rates based on earnings levels that result in excessive market-to-book ratios.

## XI. RETURN ON EQUITY RECOMMENDATION

**Q. PLEASE SUMMARIZE THE RESULTS OF YOUR THREE COST OF EQUITY ANALYSES.**

A. My three methodologies produce the following:

| Methodology | Range | |
|---|---|---|
| Discounted Cash Flow | 9.5-10.5% | (10.0% Mid-Point) |
| Capital Asset Pricing Model | 8.5-10.0% | (9.25% Mid-Point) |
| Comparable Earnings | 10.0-10.5% | (10.25% Mid-Point) |

This generally reflects a cost of equity range of 9.5 percent to 10.5 percent.

**Q. WHAT IS YOUR COST OF EQUITY RECOMMENDATION FOR CHESAPEAKE?**

A. My recommendation for Chesapeake is 9.5 percent to 10.5 percent. My specific recommendation for Chesapeake is 10.0 percent, which is the mid-point of my range.

## XII. TOTAL COST OF CAPITAL

**Q. WHAT IS THE TOTAL COST OF CAPITAL FOR ATMOS?**

A. Schedule 1 reflects the total cost of capital for the Company using the March 31, 2007 capital structure, the Company's proposed cost of long-term debt, 2006 cost of short-term debt, and my common equity cost recommendation. The resulting total cost of capital is a range of 8.03 percent to 8.56 percent, with a mid-point of 8.30 percent.

**Q. DOES YOUR COST OF CAPITAL RECOMMENDATION PROVIDE THE COMPANY WITH A SUFFICIENT LEVEL OF EARNINGS TO MAINTAIN ITS FINANCIAL INTEGRITY?**

A. Yes, it does. Schedule 12 shows the pre-tax coverage that would result if Chesapeake earned my cost of capital recommendation. As the results indicate, the mid-point of my recommended range would produce a coverage level which is above the benchmark range for an A rated utility. In addition, the debt ratio (which reflects the capital structure as proposed by the company) is above that benchmark for an A rated utility.

## XIII. COMMENTS ON COMPANY TESTIMONY

**Q. HAVE YOU REVIEWED THE TESTIMONY OF CHESAPEAKE'S COST OF EQUITY WITNESS?**

A. Yes, I have. Mr. Paul R. Moul is the Company's cost of equity witness.

**Q. PLEASE SUMMARIZE YOUR UNDERSTANDING OF MR. MOUL'S COST OF EQUITY ANALYSES AND RECOMMENDATION.**

A. Mr. Moul's cost of equity findings can be summarized as follows:

| | Gas Group |
|---|---|
| DCF | 10.52% |
| RP | 11.71% |
| CAPM | 12.12% |
| Comparable Earnings | 15.55% |
| Average | 12.48% |
| Median | 11.92% |
| Mid-point | 13.04% |
| Average of DCF, RP, & CAPM | 11.45% |

**Q. DO YOU WISH TO COMMENT ON PORTIONS OF MR. MOUL'S TESTIMONY?**

A. Yes. I will comment on each of the four methods Mr. Moul utilizes to determine the cost of common equity for Chesapeake.

**Q. PLEASE SUMMARIZE YOUR UNDERSTANDING OF MR. MOUL'S DCF ANALYSIS.**

A. Mr. Moul performs DCF analyses for a group of seven natural gas utilities. His results are as follows:

| | Gas Group |
|---|---|
| Yield | 3.93% |
| Growth | 5.75% |
| Leverage | 0.63% |
| Flotation | 0.21% |
| DCF | 10.52% |

**Q. WHAT COMMENTS DO YOU HAVE CONCERNING MR. MOUL'S GROWTH RATE RECOMMENDATION?**

A. Mr. Moul recommends a 5.75 percent growth rate for his proxy group. It is evident that this conclusion substantially exceeds investor expectations and is not even supported by Mr. Moul's analyses. As is indicated on Mr. Moul's Attachments PRM-8 and PRM-9, most of the historic and projected growth rates of EPS, DPS, BVPS and cash flow per share ("CFPS") are well below his recommendations. Of the eight historical growth rates he examined, none are as high as 5.75 percent. Further, of the eight projected long-term growth rates he considered, only three are as high as 5.75 percent. Accordingly, Mr. Moul's recommendation for 5.75 percent growth rate can only be derived by relying on three of sixteen growth indicators he examined.

**Q. DO YOU HAVE ANY COMMENTS CONCERNING MR. MOUL'S PROPOSED LEVERAGE ADJUSTMENT?**

A. Yes. Mr. Moul is proposing a "leverage adjustment" which is essentially an adjustment to the DCF cost rate to offset Mr. Moul's concern that "a market-derived cost of equity, using models such as DCF and CAPM, reflects a level of financial risk that is different from that shown by the book value capitalization." Mr. Moul further claims that the existence of utility stock prices above book value creates greater financial risk for a book value capital structure versus a market value capital structure because the book value capital structure has a lower common equity ratio than the market value capital structure. As a result, Mr. Moul claims (page 34) that "Because the ratesetting process utilizes the book value capitalization when computing the weighted average cost of capital, it is necessary to adjust the market-determined cost of equity for the higher financial risk related to the book value of the capitalization." Mr. Moul employs a formula to quantify the differential between the book value and market value capital structure and concludes a 0.63 percent upward adjustment to the DCF cost of equity is warranted.

I strongly disagree with Mr. Moul's proposed adjustment. Investors are well aware that natural gas utilities have their rates established based upon the book value of their assets (rate base) and capitalization. As a result, investors are not expecting a regulatory award on any other basis, nor should they be compensated for any difference between the book value and market value of their common equity.

I further note that, during the depressed stock price period of the 1970s and early 1980s, utility witnesses did not propose any negative leverage adjustments to lower the DCF cost of equity for the fact that utility market-to-book ratios were below 100 percent.

**Q. PLEASE SUMMARIZE MR. MOUL'S RISK PREMIUM ANALYSIS.**

A. Mr. Moul performs his risk premium analysis by combining the prospective yield on long-term A-rated pubic utility bonds (6.25 percent) with a 5.25 percent risk premium to derive a 11.50 percent cost of equity (prior to flotation costs).

I primarily disagree with the risk premium components of Mr. Moul's risk premium method. Thus, his proposed risk premium is excessive and his conclusion overstates the cost of equity for Chesapeake.

**Q. PLEASE COMMENT ON MR. MOUL'S 5.00 PERCENT RISK PREMIUM.**

A. Mr. Moul's risk premium conclusion of 5.25 percent was developed by computing total returns (dividends/interest income plus capital gains/losses) for various classes of securities over various periods of time dating back to 1928.

Mr. Moul first averages his risk premium findings over four periods, with the following results:

| | |
|---|---|
| 1928-2006 | 6.40% |
| 1952-2006 | 5.61% |
| 1974-2006 | 5.61% |
| 1979-2006 | 5.83% |

However, in reaching the risk premium conclusion, Mr. Moul focuses on the two shorter periods (i.e., last 32 years and last 28 years) and concludes that 5.72 percent is the appropriate risk premium for the S&P Public Utilities. Based upon "differences in risk characteristics" between the S&P Public Utilities group and the proxy group, he concludes that 5.25 percent is a reasonable equity risk premium for this case, which represents 92 percent of the risk premium of the S&P Utilities Group.

Mr. Moul's risk premium analyses are based on an erroneous assumption that past relationships between stock returns and bond returns are expected to prevail in the future. Schedule 13 shows that the relationship between stock and bond returns has been very volatile over the periods examined by Mr. Moul. In fact, the decade of the 1990s (most recent complete decade) showed an average differential (i.e., risk premium) of only 1.57 percent.

**Q. PLEASE SUMMARIZE MR. MOUL'S CAPM METHODS.**

A. Mr. Moul's CAPM method has the following results:

$$R_f + \beta(R_m - R_f) = k + size + adj. = K$$

$$5.25\% + .75 \times 6.47\% = 11.11\% + 1.81\% + 0.21\% = 12.12\%$$

**Q. DO YOU AGREE WITH MR. MOUL'S RISK-FREE RATE?**

A. No. Mr. Moul's 5.25 percent risk free rate, which is based on yields on long-term U.S. Treasury bonds, exceeds both recent and current yields on these securities. My CAPM analysis shows that 20-year Treasury bonds have averaged 4.89 percent over the three-month period August-October 2007.

**Q. DO YOU HAVE ANY COMMENTS CONCERNING MR. MOUL'S "LEVERAGED" BETA?**

A. Yes, I do. Mr. Moul claims (page 44) that "Value Line betas cannot be used directly in the CAPM unless those betas are applied to a capital structure measured with market values." He therefore employs a formula to adjust Value Line published betas to reflect tax rates and market value capital structures. The impact of this adjustment is to raise the average beta value for his electric group from 0.64 to 0.75.

I disagree with this adjustment. In essence, this is a similar adjustment to his "leverage adjustment" in his DCF analysis. The same reasons I stated in my response to this DCF adjustment apply to his CAPM leverage adjustment.

**Q. PLEASE COMMENT ON MR. MOUL'S RISK PREMIUM.**

A. Mr. Moul's 6.47 percent risk premium ($R_m$-$R_f$) was developed by estimating the total market forecast return for the 1,700 stocks followed by Value Line and the S&P 500 index (11.69 percent); as well as the 1926-2007 risk premium based upon the Ibbotson Associates total return (6.5 percent).

If the expected return of the 1,700 Value Line stocks, and S&P 500, is indeed 11.69 percent, then it is improper to maintain that a less risky company, such as Chesapeake, should have the same cost of equity.

Mr. Moul's second risk premium estimate – 6.5 percent from Ibbotson Associates for the period 1926-2006 – has the same problems I described earlier in connection with Mr. Moul's risk premium analysis.

**Q. PLEASE SUMMARIZE MR. MOUL'S COMPARABLE EARNINGS METHOD.**

A. Mr. Moul's comparable earnings analysis examines the historic and forecasted returns for non-utility companies which he perceives as being of similar risk to his electric group. For these companies, he calculated a 5-year historic median return on equity of 16.8 percent and a forecasted return of 14.3 percent, which average 15.55 percent, his comparable earnings conclusion.

I believe this analysis is an improper mechanism for estimating the cost of common equity for Chesapeake. The equivalence of timeliness, safety, financial strength, price stability, beta, and technical rank does not indicate that the expected earnings and cost of common equity for these non-utilities and utilities are the same. The 5-year historic and projected 3-5 year returns for the non-utilities is 16.8 percent and 14.3 percent, respectively, in Mr. Moul's Attachment PRM-14, whereas the respected returns for my proxy group is only 12.2 percent to 12.7 percent (my Schedule 9). This difference in returns demonstrates that utilities are able to maintain similar Value Line rankings to non-utilities. This result indicates that the expected earnings for the non-utilities are greater than for utilities such as Chesapeake.

**Q. DOES THIS COMPLETE YOUR TESTIMONY?**

A. Yes, it does.

186646.1

**Exhibit___(DCP-1)**
**Schedule 1**

# CHESAPEAKE UTILITIES CORP.
# TOTAL COST OF CAPITAL
# AS OF MARCH 31, 2007

| Item | Amount | | Percent | Cost | | | | Weighted Cost | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Short-Term Debt | $29,549,651 | 1/ | 13.89% | | 5.47% | 3/ | | 0.76% | | |
| Long-Term Debt | $69,944,000 | 2/ | 32.88% | | 6.74% | 2/ | | 2.22% | | |
| Common Equity | $113,202,012 | 2/ | 53.22% | 9.50% | -- | 10.500% | 5.06% | -- | 5.59% | |
| Total | $212,695,663 | | 100.00% | | | | 8.03% | -- | 8.56% | |
| | | | | | | | | 8.30% | Mid-Point | |

1/ Short-term debt totals reflect the average level of short-term debt for the 12 months ending March of 2007, as indicated in the response to COC-7:

| | |
|---|---|
| April, 2006 | $31,372,054 |
| May, 2006 | $30,134,409 |
| June, 2006 | $30,558,650 |
| July, 2006 | $34,430,177 |
| August, 2006 | $38,000,000 |
| September, 2006 | $49,096,473 |
| October, 2006 | $33,725,000 |
| November, 2006 | $19,225,000 |
| December, 2006 | $26,329,053 |
| January, 2007 | $21,225,000 |
| February, 2007 | $21,500,000 |
| March, 2007 | $19,000,000 |
| Average | **$29,549,651** |

2/ Figures from Attachment PRM-5.

3/ 2006 cost of short-term debt from 2006 Chesapeake Utilities 2006 Annual Report.

**Exhibit___(DCP-1)**
**Schedule 2**
**Page 1 of 6**

# ECONOMIC INDICATORS

| Year | Real GDP Growth* | Industrial Production Growth | Unemployment Rate | Consumer Price Index | Producer Price Index |
|---|---|---|---|---|---|
| | | | **1975 - 1982 Cycle** | | |
| 1975 | -1.1% | -8.9% | 8.5% | 7.0% | 6.6% |
| 1976 | 5.4% | 10.8% | 7.7% | 4.8% | 3.7% |
| 1977 | 5.5% | 5.9% | 7.0% | 6.8% | 6.9% |
| 1978 | 5.0% | 5.7% | 6.0% | 9.0% | 9.2% |
| 1979 | 2.8% | 4.4% | 5.8% | 13.3% | 12.8% |
| 1980 | -0.2% | -1.9% | 7.0% | 12.4% | 11.8% |
| 1981 | 1.8% | 1.9% | 7.5% | 8.9% | 7.1% |
| 1982 | -2.1% | -4.4% | 9.5% | 3.8% | 3.6% |
| | | | **1983 - 1991 Cycle** | | |
| 1983 | 4.0% | 3.7% | 9.5% | 3.8% | 0.6% |
| 1984 | 6.8% | 9.3% | 7.5% | 3.9% | 1.7% |
| 1985 | 3.7% | 1.7% | 7.2% | 3.8% | 1.8% |
| 1986 | 3.1% | 0.9% | 7.0% | 1.1% | -2.3% |
| 1987 | 2.9% | 4.9% | 6.2% | 4.4% | 2.2% |
| 1988 | 3.8% | 4.5% | 5.5% | 4.4% | 4.0% |
| 1989 | 3.5% | 1.8% | 5.3% | 4.6% | 4.9% |
| 1990 | 1.8% | -0.2% | 5.6% | 6.1% | 5.7% |
| 1991 | -0.5% | -2.0% | 6.8% | 3.1% | -0.1% |
| | | | **1992 - 2001 Cycle** | | |
| 1992 | 3.0% | 3.1% | 7.5% | 2.9% | 1.6% |
| 1993 | 2.7% | 3.3% | 6.9% | 2.7% | 0.2% |
| 1994 | 4.0% | 5.4% | 6.1% | 2.7% | 1.7% |
| 1995 | 2.5% | 4.8% | 5.6% | 2.5% | 2.3% |
| 1996 | 3.7% | 4.3% | 5.4% | 3.3% | 2.8% |
| 1997 | 4.5% | 7.2% | 4.9% | 1.7% | -1.2% |
| 1998 | 4.2% | 6.1% | 4.5% | 1.6% | 0.0% |
| 1999 | 4.5% | 4.7% | 4.2% | 2.7% | 2.9% |
| 2000 | 3.7% | 4.5% | 4.0% | 3.4% | 3.6% |
| 2001 | 0.8% | -3.5% | 4.7% | 1.6% | -1.6% |
| | | | **Current Cycle** | | |
| 2002 | 1.6% | 0.0% | 5.8% | 2.4% | 1.2% |
| 2003 | 2.5% | 1.1% | 6.0% | 1.9% | 4.0% |
| 2004 | 3.9% | 2.5% | 5.5% | 3.3% | 4.2% |
| 2005 | 3.1% | 3.2% | 5.1% | 3.4% | 5.4% |
| 2006 | 2.9% | 3.9% | 4.6% | 2.5% | 1.1% |

*GDP=Gross Domestic Product

Source: Council of Economic Advisors, Economic Indicators, various issues.

Exhibit___(DCP-1)
Schedule 2
Page 1 of 6

# ECONOMIC INDICATORS

| Year | Real GDP Growth* | Industrial Production Growth | Unemployment Rate | Consumer Price Index | Producer Price Index |
|---|---|---|---|---|---|
| | | | **1975 - 1982 Cycle** | | |
| 1975 | -1.1% | -8.9% | 8.5% | 7.0% | 6.6% |
| 1976 | 5.4% | 10.8% | 7.7% | 4.8% | 3.7% |
| 1977 | 5.5% | 5.9% | 7.0% | 6.8% | 6.9% |
| 1978 | 5.0% | 5.7% | 6.0% | 9.0% | 9.2% |
| 1979 | 2.8% | 4.4% | 5.8% | 13.3% | 12.8% |
| 1980 | -0.2% | -1.9% | 7.0% | 12.4% | 11.8% |
| 1981 | 1.8% | 1.9% | 7.5% | 8.9% | 7.1% |
| 1982 | -2.1% | -4.4% | 9.5% | 3.8% | 3.6% |
| | | | **1983 - 1991 Cycle** | | |
| 1983 | 4.0% | 3.7% | 9.5% | 3.8% | 0.6% |
| 1984 | 6.8% | 9.3% | 7.5% | 3.9% | 1.7% |
| 1985 | 3.7% | 1.7% | 7.2% | 3.8% | 1.8% |
| 1986 | 3.1% | 0.9% | 7.0% | 1.1% | -2.3% |
| 1987 | 2.9% | 4.9% | 6.2% | 4.4% | 2.2% |
| 1988 | 3.8% | 4.5% | 5.5% | 4.4% | 4.0% |
| 1989 | 3.5% | 1.8% | 5.3% | 4.6% | 4.9% |
| 1990 | 1.8% | -0.2% | 5.6% | 6.1% | 5.7% |
| 1991 | -0.5% | -2.0% | 6.8% | 3.1% | -0.1% |
| | | | **1992 - 2001 Cycle** | | |
| 1992 | 3.0% | 3.1% | 7.5% | 2.9% | 1.6% |
| 1993 | 2.7% | 3.3% | 6.9% | 2.7% | 0.2% |
| 1994 | 4.0% | 5.4% | 6.1% | 2.7% | 1.7% |
| 1995 | 2.5% | 4.8% | 5.6% | 2.5% | 2.3% |
| 1996 | 3.7% | 4.3% | 5.4% | 3.3% | 2.8% |
| 1997 | 4.5% | 7.2% | 4.9% | 1.7% | -1.2% |
| 1998 | 4.2% | 6.1% | 4.5% | 1.6% | 0.0% |
| 1999 | 4.5% | 4.7% | 4.2% | 2.7% | 2.9% |
| 2000 | 3.7% | 4.5% | 4.0% | 3.4% | 3.6% |
| 2001 | 0.8% | -3.5% | 4.7% | 1.6% | -1.6% |
| | | | **Current Cycle** | | |
| 2002 | 1.6% | 0.0% | 5.8% | 2.4% | 1.2% |
| 2003 | 2.5% | 1.1% | 6.0% | 1.9% | 4.0% |
| 2004 | 3.9% | 2.5% | 5.5% | 3.3% | 4.2% |
| 2005 | 3.1% | 3.2% | 5.1% | 3.4% | 5.4% |
| 2006 | 2.9% | 3.9% | 4.6% | 2.5% | 1.1% |

*GDP=Gross Domestic Product

Source: Council of Economic Advisors, Economic Indicators, various issues.

Exhibit___(DCP-1)
Schedule 2
Page 2 of 6

# ECONOMIC INDICATORS

| Year | Real GDP Growth* | Industrial Production Growth | Unemploy-ment Rate | Consumer Price Index | Producer Price Index |
|---|---|---|---|---|---|
| **2002** | | | | | |
| 1st Qtr. | 2.7% | -3.8% | 5.6% | 2.8% | 4.4% |
| 2nd Qtr. | 2.2% | -1.2% | 5.9% | 0.9% | -2.0% |
| 3rd Qtr. | 2.4% | 0.8% | 5.8% | 2.4% | 1.2% |
| 4th Qtr. | 0.2% | 1.4% | 5.9% | 1.6% | 0.4% |
| **2003** | | | | | |
| 1st Qtr. | 1.2% | 1.1% | 5.8% | 4.8% | 5.6% |
| 2nd Qtr. | 3.5% | -0.9% | 6.2% | 0.0% | -0.5% |
| 3rd Qtr. | 7.5% | -0.9% | 6.1% | 3.2% | 3.2% |
| 4th Qtr. | 2.7% | 1.5% | 5.9% | -0.3% | 2.8% |
| **2004** | | | | | |
| 1st Qtr. | 3.0% | 2.8% | 5.6% | 5.2% | 5.2% |
| 2nd Qtr. | 3.5% | 4.9% | 5.6% | 4.4% | 4.4% |
| 3rd Qtr. | 3.6% | 4.6% | 5.4% | 0.8% | 0.8% |
| 4th Qtr. | 2.5% | 4.3% | 5.4% | 3.6% | 7.2% |
| **2005** | | | | | |
| 1st Qtr. | 3.1% | 3.8% | 5.3% | 4.4% | 5.6% |
| 2nd Qtr. | 2.8% | 3.0% | 5.1% | 1.6% | -0.4% |
| 3rd Qtr. | 4.5% | 2.7% | 5.0% | 8.8% | 14.0% |
| 4th Qtr. | 1.2% | 2.9% | 4.9% | -2.0% | 4.0% |
| **2006** | | | | | |
| 1st Qtr. | 4.8% | 3.4% | 4.7% | 4.8% | -0.2% |
| 2nd Qtr. | 2.4% | 4.5% | 4.6% | 4.8% | 5.6% |
| 3rd Qtr. | 1.1% | 5.2% | 4.7% | 0.4% | -4.4% |
| 4th Qtr. | 2.1% | 3.5% | 4.5% | 0.0% | 3.6% |
| **2007** | | | | | |
| 1st Qtr. | 0.6% | 2.5% | 4.5% | 4.8% | 0.6% |
| 2nd Qtr. | 3.8% | 1.6% | 4.5% | 5.2% | 7.2% |
| 3rd Qtr. | 3.9% | 1.7% | 4.6% | 1.2% | 1.2% |

# ECONOMIC INDICATORS

| Year | Real GDP Growth* | Industrial Production Growth | Unemployment Rate | Consumer Price Index | Producer Price Index |
|---|---|---|---|---|---|

Source: Council of Economic Advisors, Economic Indicators, various issues.

# INTEREST RATES

| Year | Prime Rate | US Treas T Bills 3 Month | US Treas T Bonds 10 Year | Utility Bonds Aaa | Utility Bonds Aa | Utility Bonds A | Utility Bonds Baa |
|---|---|---|---|---|---|---|---|
| | | | **1975 - 1982 Cycle** | | | | |
| 1975 | 7.86% | 5.84% | 7.99% | 9.03% | 9.44% | 10.09% | 10.96% |
| 1976 | 6.84% | 4.99% | 7.61% | 8.63% | 8.92% | 9.29% | 9.82% |
| 1977 | 6.83% | 5.27% | 7.42% | 8.19% | 8.43% | 8.61% | 9.06% |
| 1978 | 9.06% | 7.22% | 8.41% | 8.87% | 9.10% | 9.29% | 9.62% |
| 1979 | 12.67% | 10.04% | 9.44% | 9.86% | 10.22% | 10.49% | 10.96% |
| 1980 | 15.27% | 11.51% | 11.46% | 12.30% | 13.00% | 13.34% | 13.95% |
| 1981 | 18.89% | 14.03% | 13.93% | 14.64% | 15.30% | 15.95% | 16.60% |
| 1982 | 14.86% | 10.69% | 13.00% | 14.22% | 14.79% | 15.86% | 16.45% |
| | | | **1983 - 1991 Cycle** | | | | |
| 1983 | 10.79% | 8.63% | 11.10% | 12.52% | 12.83% | 13.66% | 14.20% |
| 1984 | 12.04% | 9.58% | 12.44% | 12.72% | 13.66% | 14.03% | 14.53% |
| 1985 | 9.93% | 7.48% | 10.62% | 11.68% | 12.06% | 12.47% | 12.96% |
| 1986 | 8.33% | 5.98% | 7.68% | 8.92% | 9.30% | 9.58% | 10.00% |
| 1987 | 8.21% | 5.82% | 8.39% | 9.52% | 9.77% | 10.10% | 10.53% |
| 1988 | 9.32% | 6.69% | 8.85% | 10.05% | 10.26% | 10.49% | 11.00% |
| 1989 | 10.87% | 8.12% | 8.49% | 9.32% | 9.56% | 9.77% | 9.97% |
| 1990 | 10.01% | 7.51% | 8.55% | 9.45% | 9.65% | 9.86% | 10.06% |
| 1991 | 8.46% | 5.42% | 7.86% | 8.85% | 9.09% | 9.36% | 9.55% |
| | | | **1992 - 2001 Cycle** | | | | |
| 1992 | 6.25% | 3.45% | 7.01% | 8.19% | 8.55% | 8.69% | 8.86% |
| 1993 | 6.00% | 3.02% | 5.87% | 7.29% | 7.44% | 7.59% | 7.91% |
| 1994 | 7.15% | 4.29% | 7.09% | 8.07% | 8.21% | 8.31% | 8.63% |
| 1995 | 8.83% | 5.51% | 6.57% | 7.68% | 7.77% | 7.89% | 8.29% |
| 1996 | 8.27% | 5.02% | 6.44% | 7.48% | 7.57% | 7.75% | 8.16% |
| 1997 | 8.44% | 5.07% | 6.35% | 7.43% | 7.54% | 7.60% | 7.95% |
| 1998 | 8.35% | 4.81% | 5.26% | 6.77% | 6.91% | 7.04% | 7.26% |
| 1999 | 8.00% | 4.66% | 5.65% | 7.21% | 7.51% | 7.62% | 7.88% |
| 2000 | 9.23% | 5.85% | 6.03% | 7.88% | 8.06% | 8.24% | 8.36% |
| 2001 | 6.91% | 3.45% | 5.02% | 7.47% | 7.59% | 7.78% | 8.02% |
| | | | **Current Cycle** | | | | |
| 2002 | 4.67% | 1.62% | 4.61% | [1] | 7.19% | 7.37% | 8.02% |
| 2003 | 4.12% | 1.02% | 4.01% | | 6.40% | 6.58% | 6.84% |
| 2004 | 4.34% | 1.38% | 4.27% | | 6.04% | 6.16% | 6.40% |
| 2005 | 6.19% | 3.16% | 4.29% | | 5.44% | 5.65% | 5.93% |
| 2006 | 7.96% | 4.73% | 4.80% | | 5.84% | 6.07% | 6.32% |

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[1] Note: Moody's has not published Aaa utility bond yields since 2001.

Sources: Council of Economic Advisors, Economic Indicators; Moody's Bond Record; Federal Reserve Bulletin; various issues.

**Exhibit___(DCP-1)**
**Schedule 2**
**Page 4 of 6**

# INTEREST RATES

| Year | Prime Rate | US Treas T Bills 3 Month | US Treas T Bonds 10 Year | Utility Bonds Aaa [1] | Utility Bonds Aa | Utility Bonds A | Utility Bonds Baa |
|---|---|---|---|---|---|---|---|
| **2003** | | | | | | | |
| Jan | 4.25% | 1.17% | 4.05% | [1] | 6.87% | 7.06% | 7.47% |
| Feb | 4.25% | 1.16% | 3.90% | | 6.66% | 6.93% | 7.17% |
| Mar | 4.25% | 1.13% | 3.81% | | 6.56% | 6.79% | 7.05% |
| Apr | 4.25% | 1.14% | 3.96% | | 6.47% | 6.64% | 6.94% |
| May | 4.25% | 1.08% | 3.57% | | 6.20% | 6.36% | 6.47% |
| June | 4.00% | 0.95% | 3.33% | | 6.12% | 6.21% | 6.30% |
| July | 4.00% | 0.90% | 3.98% | | 6.37% | 6.57% | 6.67% |
| Aug | 4.00% | 0.96% | 4.45% | | 6.48% | 6.78% | 7.08% |
| Sept | 4.00% | 0.95% | 4.27% | | 6.30% | 6.56% | 6.87% |
| Oct | 4.00% | 0.93% | 4.29% | | 6.28% | 6.43% | 6.79% |
| Nov | 4.00% | 0.94% | 4.30% | | 6.26% | 6.37% | 6.69% |
| Dec | 4.00% | 0.90% | 4.27% | | 6.18% | 6.27% | 6.61% |
| **2004** | | | | | | | |
| Jan | 4.00% | 0.89% | 4.15% | | 6.06% | 6.15% | 6.47% |
| Feb | 4.00% | 0.92% | 4.08% | | 6.10% | 6.15% | 6.28% |
| Mar | 4.00% | 0.94% | 3.83% | | 5.93% | 5.97% | 6.12% |
| Apr | 4.00% | 0.94% | 4.35% | | 6.33% | 6.35% | 6.46% |
| May | 4.00% | 1.04% | 4.72% | | 6.66% | 6.62% | 6.75% |
| June | 4.00% | 1.27% | 4.73% | | 6.30% | 6.46% | 6.84% |
| July | 4.25% | 1.35% | 4.50% | | 6.09% | 6.27% | 6.67% |
| Aug | 4.50% | 1.48% | 4.28% | | 5.95% | 6.14% | 6.45% |
| Sept | 4.75% | 1.65% | 4.13% | | 5.79% | 5.98% | 6.27% |
| Oct | 4.75% | 1.75% | 4.10% | | 5.74% | 5.94% | 6.17% |
| Nov | 5.00% | 2.06% | 4.19% | | 5.79% | 5.97% | 6.16% |
| Dec | 5.25% | 2.20% | 4.23% | | 5.78% | 5.92% | 6.10% |
| **2005** | | | | | | | |
| Jan | 5.25% | 2.32% | 4.22% | | 5.68% | 5.78% | 5.95% |
| Feb | 5.50% | 2.53% | 4.17% | | 5.55% | 5.61% | 5.76% |
| Mar | 5.75% | 2.75% | 4.50% | | 5.76% | 5.83% | 6.01% |
| Apr | 5.75% | 2.79% | 4.34% | | 5.56% | 5.64% | 5.95% |
| May | 6.00% | 2.86% | 4.14% | | 5.39% | 5.53% | 5.88% |
| June | 6.25% | 2.99% | 4.00% | | 5.05% | 5.40% | 5.70% |
| July | 6.25% | 3.22% | 4.18% | | 5.18% | 5.51% | 5.81% |
| Aug | 6.50% | 3.45% | 4.26% | | 5.23% | 5.50% | 5.80% |
| Sept | 6.75% | 3.47% | 4.20% | | 5.27% | 5.52% | 5.83% |
| Oct | 6.75% | 3.70% | 4.46% | | 5.50% | 5.79% | 6.08% |
| Nov | 7.00% | 3.90% | 4.54% | | 5.59% | 5.88% | 6.19% |
| Dec | 7.25% | 3.89% | 4.47% | | 5.55% | 5.80% | 6.14% |
| **2006** | | | | | | | |
| Jan | 7.50% | 4.20% | 4.42% | | 5.50% | 5.75% | 6.06% |
| Feb | 7.50% | 4.41% | 4.57% | | 5.55% | 5.82% | 6.11% |
| Mar | 7.75% | 4.51% | 4.72% | | 5.71% | 5.98% | 6.26% |
| Apr | 7.75% | 4.59% | 4.99% | | 6.02% | 6.29% | 6.54% |
| May | 8.00% | 4.72% | 5.11% | | 6.16% | 6.42% | 6.59% |
| June | 8.25% | 4.79% | 5.11% | | 6.16% | 6.40% | 6.61% |
| July | 8.25% | 4.96% | 5.09% | | 6.13% | 6.37% | 6.61% |
| Aug | 8.25% | 4.98% | 4.88% | | 5.97% | 6.20% | 6.43% |
| Sept | 8.25% | 4.82% | 4.72% | | 5.81% | 6.00% | 6.26% |
| Oct | 8.25% | 4.89% | 4.73% | | 5.80% | 5.98% | 6.24% |
| Nov | 8.25% | 4.95% | 4.60% | | 5.61% | 5.80% | 6.04% |
| Dec | 8.25% | 4.85% | 4.56% | | 5.62% | 5.81% | 6.05% |
| 2007 | | | | | | | |
| Jan | 8.25% | 4.96% | 4.76% | | 5.78% | 5.96% | 6.16% |
| Feb | 8.25% | 5.02% | 4.72% | | 5.73% | 5.90% | 6.10% |
| Mar | 8.25% | 4.97% | 4.56% | | 5.66% | 5.85% | 6.10% |
| Apr | 8.25% | 4.88% | 4.69% | | 5.83% | 5.97% | 6.24% |
| May | 8.25% | 4.77% | 4.75% | | 5.86% | 5.99% | 6.23% |
| June | 8.25% | 4.63% | 5.10% | | 6.18% | 6.30% | 6.54% |
| July | 8.25% | 4.84% | 5.00% | | 6.11% | 6.25% | 6.49% |
| Aug | 8.25% | 4.34% | 4.67% | | 6.11% | 6.24% | 6.51% |
| Sept | 7.75% | 4.01% | 4.52% | | 6.10% | 6.18% | 6.45% |
| Oct | 7.50% | 3.97% | 4.53% | | | | |

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[1] Note: Moody's has not published Aaa utility bond yields since 2001.

Sources: Council of Economic Advisors, Economic Indicators; Moody's Bond Record; Federal

## INTEREST RATES

| Year | Prime Rate | US Treas T Bills 3 Month | US Treas T Bonds 10 Year | Utility Bonds Aaa [1] | Utility Bonds Aa | Utility Bonds A | Utility Bonds Baa |
|---|---|---|---|---|---|---|---|

Reserve Bulletin; various issues.

Exhibit___(DCP-1)
Schedule 2
Page 5 of 6

# STOCK PRICE INDICATORS

| Year | S&P Composite [1] | NASDAQ Composite [1] | DJIA | S&P D/P | S&P E/P |
|---|---|---|---|---|---|
| | | **1975 - 1982 Cycle** | | | |
| 1975 | | | 802.49 | 4.31% | 9.15% |
| 1976 | | | 974.92 | 3.77% | 8.90% |
| 1977 | | | 894.63 | 4.62% | 10.79% |
| 1978 | | | 820.23 | 5.28% | 12.03% |
| 1979 | | | 844.40 | 5.47% | 13.46% |
| 1980 | | | 891.41 | 5.26% | 12.66% |
| 1981 | | | 932.92 | 5.20% | 11.96% |
| 1982 | | | 884.36 | 5.81% | 11.60% |
| | | **1983 - 1991 Cycle** | | | |
| 1983 | | | 1,190.34 | 4.40% | 8.03% |
| 1984 | | | 1,178.48 | 4.64% | 10.02% |
| 1985 | | | 1,328.23 | 4.25% | 8.12% |
| 1986 | | | 1,792.76 | 3.49% | 6.09% |
| 1987 | | | 2,275.99 | 3.08% | 5.48% |
| 1988 | [1] | [1] | 2,060.82 | 3.64% | 8.01% |
| 1989 | 322.84 | | 2,508.91 | 3.45% | 7.41% |
| 1990 | 334.59 | | 2,678.94 | 3.61% | 6.47% |
| 1991 | 376.18 | 491.69 | 2,929.33 | 3.24% | 4.79% |
| | | **1992 - 2001 Cycle** | | | |
| 1992 | 415.74 | 599.26 | 3,284.29 | 2.99% | 4.22% |
| 1993 | 451.21 | 715.16 | 3,522.06 | 2.78% | 4.46% |
| 1994 | 460.42 | 751.65 | 3,793.77 | 2.82% | 5.83% |
| 1995 | 541.72 | 925.19 | 4,493.76 | 2.56% | 6.09% |
| 1996 | 670.50 | 1,164.96 | 5,742.89 | 2.19% | 5.24% |
| 1997 | 873.43 | 1,469.49 | 7,441.15 | 1.77% | 4.57% |
| 1998 | 1,085.50 | 1,794.91 | 8,625.52 | 1.49% | 3.46% |
| 1999 | 1,327.33 | 2,728.15 | 10,464.88 | 1.25% | 3.17% |
| 2000 | 1,427.22 | 3,783.67 | 10,734.90 | 1.15% | 3.63% |
| 2001 | 1,194.18 | 2,035.00 | 10,189.13 | 1.32% | 2.95% |
| | | **Current Cycle** | | | |
| 2002 | 993.94 | 1,539.73 | 9,226.43 | 1.61% | 2.92% |
| 2003 | 965.23 | 1,647.17 | 8,993.59 | 1.77% | 3.84% |
| 2004 | 1,130.65 | 1,986.53 | 10,317.39 | 1.72% | 4.89% |
| 2005 | 1,207.23 | 2,099.32 | 10,547.67 | 1.83% | 5.36% |
| 2006 | 1,310.46 | 2,263.41 | 11,408.67 | 1.87% | 5.78% |

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[1] Note: this source did not publish the S&P Composite prior to 1988 and the NASDAQ Composite prior to 1991.

Source: Council of Economic Advisors, Economic Indicators, various issues.

**Exhibit___(DCP-1)**
**Schedule 2**
**Page 6 of 6**

# STOCK PRICE INDICATORS

| YEAR | S&P Composite | NASDAQ Composite | DJIA | S&P D/P | S&P E/P |
|---|---|---|---|---|---|
| **2002** | | | | | |
| 1st Qtr. | 1,131.56 | 1,879.85 | 10,105.27 | 1.39% | 2.15% |
| 2nd Qtr. | 1,068.45 | 1,641.53 | 9,912.70 | 1.49% | 2.70% |
| 3rd Qtr. | 894.65 | 1,308.17 | 8,487.59 | 1.76% | 3.68% |
| 4th Qtr. | 887.91 | 1,346.07 | 8,400.17 | 1.79% | 3.14% |
| **2003** | | | | | |
| 1st Qtr. | 860.03 | 1,350.44 | 8,122.83 | 1.89% | 3.57% |
| 2nd Qtr. | 938.00 | 1,521.92 | 8,684.52 | 1.75% | 3.55% |
| 3rd Qtr. | 1,000.50 | 1,765.96 | 9,310.57 | 1.74% | 3.87% |
| 4th Qtr. | 1,056.42 | 1,934.71 | 9,856.44 | 1.69% | 4.38% |
| **2004** | | | | | |
| 1st Qtr. | 1,133.29 | 2,041.95 | 10,488.43 | 1.64% | 4.62% |
| 2nd Qtr. | 1,122.87 | 1,984.13 | 10,289.04 | 1.71% | 4.92% |
| 3rd Qtr. | 1,104.15 | 1,872.90 | 10,129.85 | 1.79% | 5.18% |
| 4th Qtr. | 1,162.07 | 2,050.22 | 10,362.25 | 1.75% | 4.83% |
| **2005** | | | | | |
| 1st Qtr. | 1,191.98 | 2,056.01 | 10,648.48 | 1.77% | 5.11% |
| 2nd Qtr. | 1,181.65 | 2,012.24 | 10,382.35 | 1.85% | 5.32% |
| 3rd Qtr. | 1,225.91 | 2,144.61 | 10,532.24 | 1.83% | 5.42% |
| 4th Qtr. | 1,262.07 | 2,246.09 | 10,827.79 | 1.86% | 5.60% |
| **2006** | | | | | |
| 1st Qtr. | 1,283.04 | 2,287.97 | 10,996.04 | 1.85% | 5.61% |
| 2nd Qtr. | 1,281.77 | 2,240.46 | 11,188.84 | 1.90% | 5.86% |
| 3rd Qtr. | 1,288.40 | 2,141.97 | 11,274.49 | 1.91% | 5.88% |
| 4th Qtr. | 1,389.48 | 2,390.26 | 12,175.30 | 1.81% | 5.75% |
| **2007** | | | | | |
| 1st Qtr. | 1,425.30 | 2,444.85 | 12,470.97 | 1.84% | 5.85% |
| 2nd Qtr. | 1,496.43 | 2,552.37 | 13,214.26 | 1.82% | 5.65% |
| 3rd Qtr. | 1,490.81 | 2,609.68 | 13,488.43 | 1.86% | |

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[1] Note: this source did not publish the S&P Composite prior to 1988 and the NASDA Composite prior to 1991.

Source: Council of Economic Advisors, Economic Indicators, various issues.

**Exhibit___(DCP-1)**
**Schedule 3**

# CHESAPEAKE UTILITIES CORP.
# SEGMENT RATIOS
## 2002 - 2006
## ($000)

| Segment | Operating Revenues | Operating Income | Capital Expenditures | Identifiable Assets |
|---|---|---|---|---|
| | | **2002** | | |
| Natural Gas Distribution, | $93,588 | $14,973 | $12,117 | $166,478 |
| Transmission & Marketing | 69% | 90% | 88% | 74% |
| Propane Distribution & | $29,238 | $1,052 | $1,231 | $37,941 |
| Wholesale Marketing | 22% | 6% | 9% | 17% |
| Advanced Information | $12,764 | $343 | $100 | $2,680 |
| Services | 9% | 2% | 1% | 1% |
| Chesapeake Corp. Consol. | $135,256 | $16,605 | $13,836 | $223,721 |
| | | **2003** | | |
| Natural Gas Distribution, | $110,071 | $16,653 | $9,078 | $170,759 |
| Transmission & Marketing | 67% | 77% | 77% | 77% |
| Propane Distribution & | $41,029 | $3,875 | $2,245 | $38,359 |
| Wholesale Marketing | 25% | 18% | 19% | 17% |
| Advanced Information | $12,477 | $692 | $77 | $2,913 |
| Services | 8% | 3% | 1% | 1% |
| Chesapeake Corp. Consol. | $163,568 | $21,579 | $11,822 | $222,058 |
| | | **2004** | | |
| Natural Gas Distribution, | $124,074 | $17,091 | $13,945 | $184,412 |
| Transmission & Marketing | 70% | 86% | 78% | 76% |
| Propane Distribution & | $41,500 | $2,364 | $3,395 | $47,531 |
| Wholesale Marketing | 23% | 12% | 19% | 20% |
| Advanced Information | $12,381 | $387 | $84 | $2,387 |
| Services | 7% | 2% | 0% | 1% |
| Chesapeake Corp. Consol. | $177,955 | $19,970 | $17,830 | $241,710 |
| | | **2005** | | |
| Natural Gas Distribution, | $166,389 | $17,235 | $28,434 | $225,667 |
| Transmission & Marketing | 72% | 80% | 85% | 76% |
| Propane Distribution & | $48,975 | $3,209 | $3,956 | $57,345 |
| Wholesale Marketing | 21% | 15% | 12% | 19% |
| Advanced Information | $14,121 | $1,197 | $294 | $2,063 |
| Services | 6% | 6% | 1% | 1% |
| Chesapeake Corp. Consol. | $229,630 | $21,530 | $33,423 | $295,980 |
| | | **2006** | | |
| Natural Gas Distribution, | $170,115 | $19,734 | $43,895 | $252,293 |
| Transmission & Marketing | 74% | 86% | 89% | 78% |
| Propane Distribution & | $48,576 | $2,534 | $4,779 | $60,170 |
| Wholesale Marketing | 21% | 11% | 10% | 19% |
| Advanced Information | $12,509 | $767 | $159 | $2,574 |
| Services | 5% | 3% | 0% | 1% |
| Chesapeake Corp. Consol. | $231,201 | $22,931 | $49,154 | $324,994 |

Note: Percentages totals may not add to 100 percent due to "other and eliminations" and rounding.

Source: Response to COC-8.

**Exhibit___(DCP-1)**
**Schedule 4**

# CHESAPEAKE UTILITIES CORPORATION
# CAPITAL STRUCTURE RATIOS
## 2002 - 2007
## ($000)

| YEAR | COMMON EQUITY | LONG-TERM DEBT | SHORT-TERM DEBT |
|---|---|---|---|
| 2002 | $67,350 | $73,401 | $14,565 |
| | 43.4% | 47.3% | 9.4% |
| | 47.9% | 52.1% | |
| 2003 | $72,939 | $69,416 | $7,180 |
| | 48.8% | 46.4% | 4.8% |
| | 51.2% | 48.8% | |
| 2004 | $78,489 | $66,190 | $7,911 |
| | 51.4% | 43.4% | 5.2% |
| | 54.3% | 45.7% | |
| 2005 | $85,335 | $58,890 | $40,391 |
| | 46.2% | 31.9% | 21.9% |
| | 59.2% | 40.8% | |
| 2006 | $111,486 | $70,970 | $35,190 |
| | 51.2% | 32.6% | 16.2% |
| | 61.1% | 38.9% | |
| March 31, 2007 | $118,744 | $69,924 | $29,161 |
| | 54.5% | 32.1% | 13.4% |
| | 62.9% | 37.1% | |

Note: Percentages may not total 100.0% due to rounding.

Source: Response to COC-5.

**Exhibit___(DCP-1)**
**Schedule 5**
**Page 1 of 2**

## COMPARISON COMPANIES
## COMMON EQUITY RATIOS

| COMPANY | 2002 | 2003 | 2004 | 2005 | 2006 | Average | 2010-2012 |
|---|---|---|---|---|---|---|---|
| AGL Resources | 41.7% | 49.7% | 46.0% | 48.1% | 49.8% | 47.1% | 51.0% |
| Atmos Energy | 46.1% | 49.8% | 56.8% | 42.3% | 43.0% | 47.6% | 49.0% |
| Energen | 53.2% | 55.8% | 56.7% | 56.6% | 67.4% | 57.9% | 60.0% |
| Laclede Group | 52.3% | 49.4% | 48.3% | 51.8% | 50.4% | 50.4% | 51.0% |
| New Jersey Resources | 49.4% | 61.9% | 59.7% | 58.0% | 65.2% | 58.8% | 72.7% |
| NICOR | 64.5% | 60.3% | 60.1% | 62.5% | 63.7% | 62.2% | 67.0% |
| Northwest Natural Gas | 51.5% | 50.3% | 54.0% | 53.0% | 53.7% | 52.5% | 52.0% |
| Piedmont Natural Gas | 56.1% | 57.8% | 56.4% | 58.6% | 51.7% | 56.1% | 51.3% |
| South Jersey Industries | 46.1% | 49.0% | 51.0% | 55.1% | 55.3% | 51.3% | 57.5% |
| Southwest Gas | 34.1% | 34.0% | 35.8% | 36.2% | 39.4% | 35.9% | 46.0% |
| UGI | 21.7% | 33.0% | 35.0% | 41.7% | 35.9% | 33.5% | 64.0% |
| WGL Holdings | 52.4% | 54.3% | 57.2% | 58.6% | 61.5% | 56.8% | 65.5% |
| Average | 47.4% | 50.4% | 51.4% | 51.9% | 53.1% | 50.8% | 57.3% |
| Value Line Natural Gas Distribution Composite | 41.4% | 43.7% | 45.7% | 48.3% | | 44.8% | 46.0% |

Note: Short-term debt is not included in above common equity ratios.

Source: Value Line Investment Survey.

**Exhibit___(DCP-1)**
**Schedule 5**
**Page 2 of 2**

# COMPARISON COMPANIES CAPITAL STRUCTURE RATIOS INCLUDING SHORT-TERM DEBT

| Company | 2002 | 2003 | 2004 | 2005 | 2006 |
|---|---|---|---|---|---|
| AGL Resources | 33% | 41% | 41% | 41% | 42% |
| Atmos Energy | 39% | 45% | 41% | 38% | 45% |
| Energen | 47% | 55% | 51% | 56% | 64% |
| Laclede Group | 37% | 37% | 40% | 38% | 58% |
| New Jersey Resources | 44% | 44% | 45% | 43% | 51% |
| NICOR | 51% | 41% | 43% | 42% | 51% |
| Northwest Natural Gas | 48% | 50% | 49% | 47% | 48% |
| Piedmont Natural Gas | 54% | 53% | 53% | 48% | 46% |
| South Jersey Industries | 34% | 41% | 31% | 45% | 44% |
| Southwest Gas | 33% | 33% | 34% | 36% | 41% |
| UGI | 24% | 29% | 31% | 33% | 32% |
| WGL Holdings | 48% | 49% | 52% | 58% | 51% |
| Average | **41%** | **43%** | **43%** | **44%** | **48%** |

Source: AUS Utility Reports.

Exhibit___(DCP-1)
Schedule 6
Page 1 of 4

# COMPARISON COMPANIES
# DIVIDEND YIELD

| COMPANY | DPS | August - October, 2007<br>HIGH | LOW | AVERAGE | YIELD |
|---|---|---|---|---|---|
| **Value Line Natural Gas Distribution Companies** | | | | | |
| AGL Resources | $1.64 | $41.16 | $35.24 | $38.20 | 4.3% |
| Atmos Energy | $1.28 | $29.63 | $23.87 | $26.75 | 4.8% |
| Energen | $0.46 | $64.49 | $48.24 | $56.37 | 0.8% |
| Laclede Group | $1.46 | $34.99 | $28.84 | $31.92 | 4.6% |
| New Jersey Resources | $1.52 | $52.70 | $45.50 | $49.10 | 3.1% |
| NICOR | $1.86 | $48.20 | $37.80 | $43.00 | 4.3% |
| Northwest Natural Gas | $1.50 | $49.37 | $40.98 | $45.18 | 3.3% |
| Piedmont Natural Gas | $1.00 | $27.50 | $23.09 | $25.30 | 4.0% |
| South Jersey Industries | $0.98 | $37.78 | $31.20 | $34.49 | 2.8% |
| Southwest Gas | $0.86 | $31.89 | $26.45 | $29.17 | 2.9% |
| UGI | $0.74 | $26.96 | $22.75 | $24.86 | 3.0% |
| WGL Holdings | $1.37 | $32.08 | $29.79 | $30.94 | 4.4% |
| Average | | | | | **3.5%** |
| **Moul Gas Group** | | | | | |
| Chesapeake Utilities | $1.18 | $35.75 | $28.00 | $31.88 | 3.7% |
| Delta Natural Gas | $1.24 | $25.50 | $23.50 | $24.50 | 5.1% |
| EnergySouth | $1.00 | $56.50 | $44.55 | $50.53 | 2.0% |
| Laclede Group | $1.46 | $34.99 | $28.84 | $31.92 | 4.6% |
| Northwest Natural Gas | $1.50 | $49.37 | $40.98 | $45.18 | 3.3% |
| RGC Resources | $1.22 | $28.70 | $25.88 | $27.29 | 4.5% |
| South Jersey Industries | $0.98 | $37.78 | $31.20 | $34.49 | 2.8% |
| Average | | | | | **3.7%** |

Source: Yahoo! Finance.

Exhibit___(DCP-1)
Schedule 6
Page 2 of 4

# COMPARISON COMPANIES
# RETENTION GROWTH RATES

| COMPANY | 2002 | 2003 | 2004 | 2005 | 2006 | Average | 2007 | 2008 | '10-'12 | Average |
|---|---|---|---|---|---|---|---|---|---|---|
| **Value Line Natural Gas** | | | | | | | | | | |
| AGL Resources | 7.0% | 6.6% | 5.6% | 6.2% | 6.3% | 6.3% | 5.5% | 6.0% | 6.0% | 5.8% |
| Atmos Energy | 1.9% | 2.8% | 1.7% | 2.3% | 3.6% | 2.5% | 2.5% | 3.0% | 4.0% | 3.2% |
| Energen | 7.0% | 12.1% | 12.4% | 16.1% | 16.7% | 12.9% | 20.0% | 17.5% | 12.5% | 16.7% |
| Laclede Group | 0.0% | 3.1% | 2.7% | 3.1% | 5.1% | 2.8% | 3.5% | 3.0% | 3.5% | 3.3% |
| New Jersey Resources | 6.9% | 7.7% | 7.8% | 8.5% | 6.3% | 7.4% | 6.5% | 6.0% | 5.0% | 5.8% |
| NICOR | 6.5% | 1.5% | 2.1% | 2.3% | 5.2% | 3.5% | 4.5% | 5.0% | 4.5% | 4.7% |
| Northwest Natural Gas | 1.9% | 2.6% | 2.7% | 3.7% | 4.2% | 3.0% | 5.0% | 5.0% | 4.5% | 4.8% |
| Piedmont Natural Gas | 1.7% | 3.1% | 3.7% | 3.6% | 2.8% | 3.0% | 3.5% | 3.5% | 4.0% | 3.7% |
| South Jersey Industries | 4.7% | 5.0% | 5.9% | 6.2% | 10.2% | 6.4% | 7.5% | 7.5% | 9.0% | 8.0% |
| Southwest Gas | 1.9% | 1.7% | 4.3% | 2.2% | 5.3% | 3.1% | 5.5% | 6.0% | 7.0% | 6.2% |
| UGI | 9.7% | 9.2% | 7.3% | 11.5% | 9.4% | 9.4% | 9.0% | 9.5% | 9.5% | 9.3% |
| WGL Holdings | 0.0% | 6.2% | 4.1% | 4.6% | 3.1% | 3.6% | 3.5% | 3.5% | 3.5% | 3.5% |
| Average | | | | | | **5.3%** | | | | **6.3%** |
| **Moul Gas Group** | | | | | | | | | | |
| Chesapeake Utilities | 0.5% | 5.4% | 5.1% | 5.5% | 4.1% | 4.1% | | | | |
| Delta Natural Gas | 2.1% | 1.6% | 0.2% | 2.4% | 2.1% | 1.7% | | | | |
| EnergySouth | 6.4% | 6.5% | 6.9% | 7.3% | 6.3% | 6.7% | | | | |
| Laclede Group | 0.0% | 3.1% | 2.7% | 3.1% | 5.1% | 2.8% | 3.5% | 3.0% | 3.5% | 3.3% |
| Northwest Natural Gas | 1.9% | 2.6% | 2.7% | 3.7% | 4.2% | 3.0% | 5.0% | 5.0% | 4.5% | 4.8% |
| RGC Resources | 0.9% | 3.8% | 0.0% | 8.9% | 1.8% | 3.1% | | | | |
| South Jersey Industries | 4.7% | 5.0% | 5.9% | 6.2% | 10.2% | 6.4% | 7.5% | 7.5% | 9.0% | 8.0% |
| Average | | | | | | **4.0%** | | | | **5.4%** |

Note: Figures for companies appearing in Value Line Investment Survey Expanded Edition are taken from Mr. Moul's source documents.

Source: Value Line Investment Survey.

# COMPARISON COMPANIES
# PER SHARE GROWTH RATES

| | 5-Year Historic Growth Rates | | | | Est'd '04-'06 to '10-'12 Growth Rates | | | |
|---|---|---|---|---|---|---|---|---|
| COMPANY | EPS | DPS | BVPS | Average | EPS | DPS | BVPS | Average |
| **Value Line Natural Gas** | | | | | | | | |
| AGL Resources | 15.0% | 4.0% | 10.5% | 9.8% | 3.5% | 5.5% | 2.5% | 3.8% |
| Atmos Energy | 10.0% | 2.0% | 8.5% | 6.8% | 5.5% | 1.5% | 5.5% | 4.2% |
| Energen | 22.0% | 4.0% | 14.0% | 13.3% | 5.5% | 7.0% | 9.0% | 7.2% |
| Laclede Group | 6.5% | 0.5% | 3.5% | 3.5% | 2.0% | 2.5% | 5.0% | 3.2% |
| New Jersey Resources | 8.0% | 3.5% | 8.5% | 6.7% | 4.0% | 5.0% | 10.5% | 6.5% |
| NICOR | -3.0% | 2.5% | 2.5% | 0.7% | 4.5% | 1.0% | 5.0% | 3.5% |
| Northwest Natural Gas | 3.0% | 1.5% | 3.5% | 2.7% | 7.0% | 5.5% | 3.5% | 5.3% |
| Piedmont Natural Gas | 5.0% | 5.0% | 6.5% | 5.5% | 4.5% | 4.5% | 3.0% | 4.0% |
| South Jersey Industries | 9.5% | 3.5% | 13.5% | 8.8% | | 5.5% | 4.5% | 5.0% |
| Southwest Gas | 6.0% | 0.0% | 3.5% | 3.2% | 9.0% | 1.5% | 4.0% | 4.8% |
| UGI | 22.5% | 5.0% | 25.0% | 17.5% | 4.5% | 2.5% | 9.5% | 5.5% |
| WGL Holdings | 6.0% | 1.5% | 3.0% | 3.5% | 2.0% | 2.5% | 4.0% | 2.8% |
| Average | | | | **6.8%** | | | | **4.7%** |
| **Moul Gas Group** | | | | | | | | |
| Chesapeake Utilities | 5.0% | 1.5% | 4.5% | 3.7% | | | | |
| Delta Natural Gas | 1.5% | 1.0% | 4.5% | 2.3% | | | | |
| EnergySouth | 8.5% | 5.0% | 7.0% | 6.8% | | | | |
| Laclede Group | 6.5% | 0.5% | 3.5% | 3.5% | 2.0% | 2.5% | 5.0% | 3.2% |
| Northwest Natural Gas | 3.0% | 1.5% | 3.5% | 2.7% | 7.0% | 5.5% | 3.5% | 5.3% |
| RGC Resources | -1.0% | 1.5% | 3.0% | 1.2% | | | | |
| South Jersey Industries | 9.5% | 3.5% | 13.5% | 8.8% | 0.0% | 5.5% | 4.5% | 3.3% |
| Average | | | | **4.1%** | | | | **3.9%** |

Note: Figures for companies appearing in Value Line Investment Survey Expanded Edition are taken from Mr. Moul's source documents

Source: Value Line Investment Survey.

## COMPARISON COMPANIES
## DCF COST RATES

| COMPANY | ADJUSTED YIELD | HISTORIC RETENTION GROWTH | PROSPECTIVE RETENTION GROWTH | HISTORIC PER SHARE GROWTH | PROSPECTIVE PER SHARE GROWTH | FIRST CALL EPS GROWTH | AVERAGE GROWTH | DCF RATES |
|---|---|---|---|---|---|---|---|---|
| **Value Line Natural Gas** | | | | | | | | |
| AGL Resources | 4.4% | 6.3% | 5.8% | 9.8% | 3.8% | 4.8% | 6.1% | 10.5% |
| Atmos Energy | 4.9% | 2.5% | 3.2% | 6.8% | 4.2% | 6.2% | 4.6% | 9.5% |
| Energen | 0.9% | 12.9% | 16.7% | 13.3% | 7.2% | 4.3% | 10.9% | 11.7% |
| Laclede Group | 4.6% | 2.8% | 3.3% | 3.5% | 3.2% | 3.0% | 3.2% | 7.8% |
| New Jersey Resources | 3.2% | 7.4% | 5.8% | 6.7% | 6.5% | 5.7% | 6.4% | 9.6% |
| NICOR | 4.4% | 3.5% | 4.7% | 0.7% | 3.5% | 2.0% | 2.9% | 7.3% |
| Northwest Natural Gas | 3.4% | 3.0% | 4.8% | 2.7% | 5.3% | 4.8% | 4.1% | 7.5% |
| Piedmont Natural Gas | 4.0% | 3.0% | 3.7% | 5.5% | 4.0% | | 4.0% | 8.1% |
| South Jersey Industries | 2.9% | 6.4% | 8.0% | 8.8% | 5.0% | 7.0% | 7.0% | 10.0% |
| Southwest Gas | 3.0% | 3.1% | 6.2% | 3.2% | 4.8% | 4.5% | 4.3% | 7.4% |
| UGI | 3.1% | 9.4% | 9.3% | 17.5% | 5.5% | 8.0% | 10.0% | 13.1% |
| WGL Holdings | 4.5% | 3.6% | 3.5% | 3.5% | 2.8% | 3.7% | 3.4% | 7.9% |
| Mean | 3.6% | 5.3% | 6.3% | 6.8% | 4.7% | 4.9% | 5.6% | **9.2%** |
| Median | | | | | | | | **8.8%** |
| Composite | | 8.9% | 9.9% | **10.5%** | 8.3% | 8.5% | 9.2% | |
| **Moul Gas Group** | | | | | | | | |
| Chesapeake Utilities | 3.8% | 4.1% | | 3.7% | | 7.0% | 4.9% | 8.7% |
| Delta Natural Gas | 5.1% | 1.7% | | 2.3% | | | 2.0% | 7.1% |
| EnergySouth | 2.0% | 6.7% | | 6.8% | | 7.0% | 6.8% | 8.9% |
| Laclede Group | 4.6% | 2.8% | 3.3% | 3.5% | 3.2% | 3.0% | 3.2% | 7.8% |
| Northwest Natural Gas | 3.4% | 3.0% | 4.8% | 2.7% | 5.3% | 4.8% | 4.1% | 7.5% |
| RGC Resources | 4.5% | 3.1% | | 1.2% | | | 2.1% | 6.6% |
| South Jersey Industries | 2.9% | 6.4% | 8.0% | 8.8% | 3.3% | 7.0% | 6.7% | 9.7% |
| Mean | 3.8% | 4.0% | 5.4% | 4.1% | 3.9% | 5.8% | 4.3% | **8.0%** |
| Median | | | | | | | | **7.8%** |
| Composite | | 7.7% | 9.2% | 7.9% | 7.7% | **9.5%** | 8.2% | |

Sources: Prior pages of this schedule.

**Exhibit___(DCP-1)**
**Schedule 7**

# STANDARD & POOR'S 500 COMPOSITE
# 20-YEAR U.S. TREASURY BOND YIELDS
# RISK PREMIUMS

| Year | EPS | BVPS | ROE | 20-YEAR T-BOND YIELD | RISK PREMIUM |
|---|---|---|---|---|---|
| 1977 | | $79.07 | | | |
| 1978 | $12.33 | $85.35 | 15.00% | 7.90% | 7.10% |
| 1979 | $14.86 | $94.27 | 16.55% | 8.86% | 7.69% |
| 1980 | $14.82 | $102.48 | 15.06% | 9.97% | 5.09% |
| 1981 | $15.36 | $109.43 | 14.50% | 11.55% | 2.95% |
| 1982 | $12.64 | $112.46 | 11.39% | 13.50% | -2.11% |
| 1983 | $14.03 | $116.93 | 12.23% | 10.38% | 1.85% |
| 1984 | $16.64 | $122.47 | 13.90% | 11.74% | 2.16% |
| 1985 | $14.61 | $125.20 | 11.80% | 11.25% | 0.55% |
| 1986 | $14.48 | $126.82 | 11.49% | 8.98% | 2.51% |
| 1987 | $17.50 | $134.04 | 13.42% | 7.92% | 5.50% |
| 1988 | $23.75 | $141.32 | 17.25% | 8.97% | 8.28% |
| 1989 | $22.87 | $147.26 | 15.85% | 8.81% | 7.04% |
| 1990 | $21.73 | $153.01 | 14.47% | 8.19% | 6.28% |
| 1991 | $16.29 | $158.85 | 10.45% | 8.22% | 2.23% |
| 1992 | $19.09 | $149.74 | 12.37% | 7.29% | 5.08% |
| 1993 | $21.89 | $180.88 | 13.24% | 7.17% | 6.07% |
| 1994 | $30.60 | $193.06 | 16.37% | 6.59% | 9.78% |
| 1995 | $33.96 | $215.51 | 16.62% | 7.60% | 9.02% |
| 1996 | $38.73 | $237.08 | 17.11% | 6.18% | 10.93% |
| 1997 | $39.72 | $249.52 | 16.33% | 6.64% | 9.69% |
| 1998 | $37.71 | $266.40 | 14.62% | 5.83% | 8.79% |
| 1999 | $48.17 | $290.68 | 17.29% | 5.57% | 11.72% |
| 2000 | $50.00 | $325.80 | 16.22% | 6.50% | 9.72% |
| 2001 | $24.69 | $338.37 | 7.43% | 5.53% | 1.90% |
| 2002 | $27.59 | $321.72 | 8.36% | 5.59% | 2.77% |
| 2003 | $48.73 | $367.17 | 14.15% | 4.80% | 9.35% |
| 2004 | $58.55 | $414.75 | 14.98% | 5.02% | 9.96% |
| 2005 | $69.93 | $453.06 | 16.12% | 4.69% | 11.43% |
| 2006 | $81.51 | $504.39 | 17.03% | 4.68% | 12.35% |
| Average | | | | | **6.40%** |

Source: Standard & Poor's Analysts' Handbook, Ibbotson Associates Handbook.

**Exhibit___(DCP-1)**
**Schedule 9**
**Page 1 of 2**

# COMPARISON COMPANIES
# RATES OF RETURN ON AVERAGE COMMON EQUITY

| Company | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 1992-2001 Average | 2002-2006 Average | 2007 | 2008 | 2010-2012 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Value Line Natural Gas** | | | | | | | | | | | | | | | | | | | | |
| AGL Resources | 11.8% | 11.0% | 11.6% | 13.1% | 13.2% | 12.7% | 12.6% | 7.9% | 11.2% | 12.7% | 14.7% | 15.3% | 13.9% | 13.3% | 13.6% | 11.8% | 14.2% | 13.0% | 13.5% | 14.0% |
| Atmos Energy | 10.7% | 12.7% | 10.0% | 12.2% | 14.4% | 12.3% | 15.8% | 6.7% | 8.5% | 11.1% | 10.3% | 11.2% | 9.1% | 9.1% | 10.0% | 11.4% | 9.9% | 8.5% | 9.0% | 9.0% |
| Energen | 12.6% | 13.4% | 13.9% | 11.3% | 11.9% | 12.3% | 11.4% | 11.3% | 14.3% | 15.6% | 12.4% | 17.2% | 17.0% | 20.3% | 22.2% | 12.8% | 17.8% | 22.5% | 20.0% | 15.0% |
| Laclede Group | 9.9% | 13.4% | 11.5% | 10.0% | 14.0% | 13.2% | 11.0% | 10.0% | 9.1% | 10.6% | 7.8% | 11.8% | 11.2% | 11.1% | 13.1% | 11.3% | 11.0% | 10.0% | 10.0% | 10.0% |
| New Jersey Resources | 12.1% | 11.9% | 13.0% | 13.3% | 13.8% | 14.5% | 14.6% | 14.9% | 15.1% | 15.2% | 15.9% | 16.7% | 15.8% | 16.2% | 14.6% | 13.8% | 15.8% | 13.0% | 12.0% | 10.5% |
| NICOR | 15.3% | 15.3% | 15.7% | 14.6% | 17.0% | 16.9% | 14.7% | 15.7% | 18.2% | 18.8% | 17.3% | 12.4% | 13.0% | 13.0% | 16.0% | 16.2% | 14.3% | 14.0% | 13.0% | 13.0% |
| Northwest Natural Gas | 6.0% | 13.7% | 12.2% | 11.4% | 13.2% | 11.2% | 6.3% | 10.1% | 10.2% | 10.3% | 8.7% | 9.2% | 9.3% | 10.1% | 10.9% | 10.5% | 9.6% | 11.0% | 11.0% | 11.5% |
| Piedmont Natural Gas | 14.1% | 13.8% | 12.2% | 12.3% | 13.2% | 13.8% | 13.6% | 12.1% | 12.5% | 12.0% | 10.8% | 12.2% | 12.4% | 11.6% | 10.9% | 13.0% | 11.6% | 12.0% | 12.0% | 12.5% |
| South Jersey Industries | 11.8% | 11.0% | 8.5% | 11.4% | 11.1% | 11.9% | 10.1% | 15.6% | 15.4% | 15.3% | 14.0% | 13.1% | 13.4% | 13.2% | 17.2% | 12.2% | 14.2% | 13.5% | 13.5% | 15.5% |
| Southwest Gas | 5.1% | 3.9% | 7.5% | 0.6% | 1.7% | 5.4% | 10.4% | 7.5% | 7.3% | 6.7% | 6.6% | 6.2% | 8.8% | 6.5% | 9.7% | 5.6% | 7.6% | 9.0% | 9.5% | 10.5% |
| UGI | 9.1% | 3.2% | 9.0% | 4.9% | 9.2% | 12.9% | 10.9% | 13.4% | 17.4% | 22.7% | 25.9% | 21.9% | 16.5% | 19.5% | 16.1% | 11.3% | 20.0% | 15.0% | 15.0% | 14.0% |
| WGL Holdings | 12.5% | 12.1% | 12.6% | 12.4% | 15.0% | 14.1% | 11.3% | 10.3% | 11.9% | 11.9% | 7.1% | 14.4% | 11.9% | 12.1% | 10.8% | 12.4% | 11.3% | 11.0% | 11.0% | 10.5% |
| Average | 10.9% | 11.3% | 11.5% | 10.6% | 12.3% | 12.6% | 11.9% | 11.3% | 12.6% | 13.6% | 12.6% | 13.5% | 12.7% | 13.0% | 13.8% | **11.9%** | **13.1%** | **12.7%** | **12.5%** | **12.2%** |
| Composite | | | | | | | | | | | | | | | | **11.9%** | **13.1%** | | | |
| **Moul Gas Group** | | | | | | | | | | | | | | | | | | | | |
| Chesapeake Utilities | | | | | | | | 12.4% | 11.8% | 10.7% | 8.4% | 14.1% | 12.4% | 12.6% | 11.1% | | 11.7% | | | |
| Delta Natural Gas | | | | | | | | 7.2% | 11.3% | 11.4% | 10.9% | 10.6% | 8.1% | 10.0% | 9.7% | | 9.9% | | | |
| EnergySouth | | | | | | | | 13.8% | 13.2% | 10.8% | 13.7% | 13.7% | 13.9% | 13.9% | 13.1% | | 13.7% | | | |
| Laclede Group | 9.9% | 13.4% | 11.5% | 10.0% | 14.0% | 13.2% | 11.0% | 10.0% | 9.1% | 10.6% | 7.8% | 11.8% | 11.2% | 11.1% | 13.1% | 11.3% | 11.0% | 10.0% | 10.0% | 10.0% |
| Northwest Natural Gas | 6.0% | 13.7% | 12.2% | 11.4% | 13.2% | 11.2% | 6.3% | 10.1% | 10.2% | 10.3% | 8.7% | 9.2% | 9.3% | 10.1% | 10.9% | 10.5% | 9.6% | 11.0% | 11.0% | 11.5% |
| RGC Resources | | | | | | | | 10.6% | 9.8% | 7.6% | 7.9% | 10.6% | 5.8% | 9.0% | 8.3% | | 8.3% | | | |
| South Jersey Industries | 11.8% | 11.0% | 8.5% | 11.4% | 11.1% | 11.9% | 10.1% | 15.6% | 15.4% | 15.3% | 14.0% | 13.1% | 13.4% | 13.2% | 17.2% | 12.2% | 14.2% | 13.5% | 13.5% | 15.5% |
| Mean | 9.2% | 12.7% | 10.7% | 10.9% | 12.8% | 12.1% | 9.1% | 11.4% | 11.5% | 11.0% | 10.2% | 11.9% | 10.6% | 11.4% | | **11.3%** | **11.2%** | **11.5%** | **11.5%** | **12.3%** |
| Composite | | | | | | | | | | | | | | | | **11.1%** | **11.0%** | | | |

Source: Calculations made from data contained in Value Line Investment Survey.

Exhibit___(DCP-1)
Schedule 9
Page 2 of 2

# COMPARISON COMPANIES
# MARKET TO BOOK RATIOS

| Company | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 1992-2001 Average | 2002-2006 Average |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Value Line Natural Gas** | | | | | | | | | | | | | | | | | |
| AGL Resources | 181% | 195% | 169% | 172% | 189% | 183% | 183% | 169% | 168% | 184% | 171% | 188% | 184% | 191% | 186% | 179% | 184% |
| Atmos Energy | 158% | 194% | 186% | 196% | 248% | 241% | 246% | 216% | 167% | 170% | 150% | 152% | 147% | 145% | 146% | 202% | 148% |
| Energen | 138% | 171% | 150% | 145% | 161% | 186% | 174% | 147% | 189% | 215% | 160% | 194% | 242% | 309% | 280% | 168% | 237% |
| Laclede Group | 158% | 187% | 178% | 163% | 168% | 175% | 174% | 159% | 141% | 155% | 145% | 169% | 179% | 179% | 184% | 166% | 171% |
| New Jersey Resources | 161% | 185% | 162% | 179% | 190% | 229% | 225% | 224% | 227% | 224% | 220% | 244% | 251% | 275% | 247% | 201% | 247% |
| NICOR | 179% | 216% | 195% | 187% | 220% | 242% | 260% | 226% | 227% | 239% | 199% | 185% | 210% | 222% | 234% | 219% | 210% |
| Northwest Natural Gas | 162% | 176% | 161% | 146% | 156% | 173% | 169% | 141% | 129% | 133% | 145% | 144% | 153% | 172% | 177% | 155% | 158% |
| Piedmont Natural Gas | 180% | 214% | 186% | 182% | 183% | 217% | 222% | 213% | 195% | 199% | 186% | 211% | 212% | 208% | 221% | 199% | 208% |
| South Jersey Industries | 154% | 175% | 141% | 142% | 146% | 178% | 209% | 202% | 196% | 205% | 185% | 170% | 195% | 221% | 209% | 175% | 196% |
| Southwest Gas | 81% | 100% | 103% | 103% | 121% | 129% | 139% | 147% | 120% | 127% | 123% | 118% | 127% | 135% | 161% | 117% | 133% |
| UGI | 187% | 162% | 161% | 166% | 196% | 226% | 222% | 196% | 244% | 292% | 318% | 286% | 240% | 279% | 247% | 205% | 274% |
| WGL Holdings | 173% | 189% | 165% | 164% | 178% | 199% | 197% | 176% | 177% | 177% | 152% | 162% | 175% | 183% | 168% | 180% | 168% |
| Average | 159% | 180% | 163% | 162% | 180% | 198% | 202% | 185% | 182% | 193% | 180% | 185% | 193% | 210% | 205% | **180%** | **195%** |
| Composite | | | | | | | | | | | | | | | | **180%** | **195%** |
| **Moul Gas Group** | | | | | | | | | | | | | | | | | |
| Chesapeake Utilities | | | | | | | | 153% | 148% | 152% | 158% | 181% | 181% | 212% | 205% | 169% | 187% |
| Delta Natural Gas | | | | | | | | 133% | 133% | 150% | 156% | 161% | 171% | 173% | 160% | 154% | 164% |
| EnergySouth | | | | | | | | 170% | 148% | 161% | 190% | 194% | 225% | 219% | 252% | | 216% |
| Laclede Group | 158% | 187% | 178% | 163% | 168% | 175% | 174% | 159% | 141% | 155% | 145% | 169% | 179% | 179% | 184% | 166% | 171% |
| Northwest Natural Gas | 162% | 176% | 161% | 146% | 156% | 173% | 169% | 141% | 129% | 133% | 145% | 144% | 153% | 172% | 177% | 155% | 158% |
| RGC Resources | | | | | | | | 141% | 122% | 123% | 116% | 130% | 166% | 151% | 137% | 136% | 140% |
| South Jersey Industries | 154% | 175% | 141% | 142% | 146% | 178% | 209% | 202% | 196% | 205% | 185% | 170% | 195% | 221% | 209% | 175% | 196% |
| Mean | 158% | 179% | 160% | 150% | 157% | 175% | 184% | 157% | 145% | 154% | 156% | 164% | 181% | 190% | 189% | **159%** | **176%** |
| Composite | | | | | | | | | | | | | | | | **162%** | **176%** |

Source: Calculations made from data contained in Value Line Investment Survey.

Exhibit___(DCP-1)
Schedule 10

# STANDARD & POOR'S 500 COMPOSITE
# RETURNS AND MARKET-TO-BOOK RATIOS
# 1992 - 2006

| YEAR | RETURN ON AVERAGE EQUITY | MARKET-TO BOOK RATIO |
|---|---|---|
| 1992 | 12.2% | 271% |
| 1993 | 13.2% | 272% |
| 1994 | 16.4% | 246% |
| 1995 | 16.6% | 264% |
| 1996 | 17.1% | 299% |
| 1997 | 16.3% | 354% |
| 1998 | 14.6% | 421% |
| 1999 | 17.3% | 481% |
| 2000 | 16.2% | 453% |
| 2001 | 7.5% | 353% |
| 2002 | 8.4% | 296% |
| 2003 | 14.2% | 278% |
| 2004 | 15.0% | 291% |
| 2005 | 16.1% | 278% |
| 2006 | 17.0% | 277% |
| Averages: | | |
| 1992-2001 | 14.7% | 341% |
| 2002-2006 | 14.1% | 284% |

Source: Standard & Poor's Analyst's Handbook, 2007 edition, page 1.

Exhibit___(DCP-1)
Schedule 11
Page 1 of 2

# RISK INDICATORS

| GROUP | VALUE LINE SAFETY | VALUE LINE BETA | VALUE LINE FIN STR | S & P STK RANK |
|---|---|---|---|---|
| S & P's 500 Composite | 2.7 | 1.05 | B++ | B+ |
| Value Line Natural Gas | 1.9 | 0.85 | B++ | A- |
| Moul Gas Group | 2.0 | 0.64 | B++ | B+ |
| Chesapeake Utilities | 2.0 | 0.60 | | B+ |

Sources: Value Line Investment Survey, Standard & Poor's Stock Guide.

Definitions:

Safety rankings are in a range of 1 to 5, with 1 representing the highest safety or lowest risk.

Beta reflects the variability of a particular stock, relative to the market as a whole. A stock with a beta of 1.0 moves in concert with the market, a stock with a beta below 1.0 is less variable than the market, and a stock with a beta above 1.0 is more variable than the market.

Financial strengths range from C to A++, with the latter representing the highest level.

Common stock rankings range from D to A+, with the later representing the highest level.

**Exhibit___(DCP-1)**
**Schedule 11**
**Page 2 of 2**

# RISK INDICATORS BY COMPANY

| Company | VALUE LINE SAFETY | VALUE LINE BETA | VALUE LINE FINANCIAL STRENGTH | | S& P STOCK RANKING | |
|---|---|---|---|---|---|---|
| **Value Line Natural Gas** | | | | | | |
| AGL Resources | 2 | 0.85 | B++ | 3.67 | A | 4.00 |
| Atmos Energy | 2 | 0.80 | B+ | 3.33 | B+ | 3.33 |
| Energen | 2 | 0.90 | A | 4.00 | A | 4.00 |
| Laclede Group | 2 | 0.90 | B+ | 3.33 | B+ | 3.33 |
| New Jersey Resources | 1 | 0.80 | A | 4.00 | A | 4.00 |
| NICOR | 3 | 1.05 | A | 4.00 | B | 3.00 |
| Northwest Natural Gas | 1 | 0.80 | A | 4.00 | B+ | 3.33 |
| Piedmont Natural Gas | 2 | 0.80 | B++ | 3.67 | A- | 3.67 |
| South Jersey Industries | 2 | 0.70 | B++ | 3.67 | A- | 3.67 |
| Southwest Gas | 3 | 0.85 | B | 3.00 | B+ | 3.33 |
| UGI | 2 | 0.85 | B+ | 3.33 | A | 4.00 |
| WGL Holdings | 1 | 0.85 | A | 4.00 | B+ | 3.33 |
| Average | 1.9 | 0.85 | B++ | 3.67 | A- | 3.58 |
| **Moul Gas Group** | | | | | | |
| Chesapeake Utilities | 2 | 0.60 | | | B+ | 3.33 |
| Delta Natural Gas | 2 | 0.50 | | | B+ | 3.33 |
| EnergySouth | 2 | 0.65 | | | | |
| Laclede Group | 2 | 0.90 | B+ | 3.33 | B+ | 3.33 |
| Northwest Natural Gas | 1 | 0.80 | A | 4.00 | B+ | 3.33 |
| RGC Resources | 3 | 0.30 | | | | |
| South Jersey Industries | 2 | 0.70 | B++ | 3.67 | A- | 3.67 |
| Average | 2.0 | 0.64 | B++ | 3.67 | B+ | 3.40 |

**Exhibit___(DCP-1)**
**Schedule 12**

# CHESAPEAKE UTILITIES CORP.
# PRE-TAX COVERGE

| Item | Percent | Cost | Weiighted Cost | Pre-Tax Cost | |
|---|---|---|---|---|---|
| Short-Term Debt | 13.89% | 5.47% | 0.76% | 0.76% | |
| Long-Term Debt | 32.88% | 6.74% | 2.22% | 2.22% | |
| Common Equity | 53.22% | 10.000% | 5.32% | 8.9% | (1) |
| Total | 100.00% | | 7.54% | 11.09% | |

(1) Post-tax weighted cost divided by .60 (composite tax factor).

Pre-tax coverage = 11.09%/(0.76% + 2.22%)
**3.72**

Standard & Poor's Utility Benchmark Ratios:
Business Position of "2"

| | A |
|---|---|
| Pre-tax coverage (x) | 2.3 - 2.9x |
| Total Debt to Total Capital (%) | 52 - 58% |

Note: Standard & Poor's no longer employs the pre-tax coverage ratios as one of its qualitative ratings criteria. The above-cited benchmark ratios reflect the 1999 crtiteria reported by S&P.

Exhibit___(DCP-1)
Schedule 13
Page 1 of 2

# ANNUAL RISK PREMIUMS IN MR. MOUL'S RISK PREMIUM ANALYSIS

| Year | S&P Utility Index | Public Utility Bonds | Differential | Averages By Decade |
|---|---|---|---|---|
| 1928 | 57.47% | 3.08% | 54.39% | |
| 1929 | 11.02% | 2.34% | 8.68% | |
| 1930 | -21.96% | 4.74% | -26.70% | |
| 1931 | -35.90% | -11.11% | -24.79% | |
| 1932 | -0.54% | 7.25% | -7.79% | |
| 1933 | -21.87% | -3.82% | -18.05% | |
| 1934 | -20.41% | 22.61% | -43.02% | |
| 1935 | 76.63% | 16.03% | 60.60% | |
| 1936 | 20.69% | 8.30% | 12.39% | |
| 1937 | -37.04% | -4.05% | -32.99% | |
| 1938 | 22.45% | 8.11% | 14.34% | |
| 1939 | 11.26% | 6.76% | 4.50% | -6.15% |
| 1940 | -17.15% | 4.45% | -21.60% | |
| 1941 | -31.57% | 2.15% | -33.72% | |
| 1942 | 15.39% | 3.81% | 11.58% | |
| 1943 | 46.07% | 7.04% | 39.03% | |
| 1944 | 18.03% | 3.29% | 14.74% | |
| 1945 | 53.33% | 5.92% | 47.41% | |
| 1946 | 1.26% | 2.98% | -1.72% | |
| 1947 | -13.16% | -2.19% | -10.97% | |
| 1948 | 4.01% | 2.65% | 1.36% | |
| 1949 | 31.39% | 7.16% | 24.23% | 7.03% |
| 1950 | 3.25% | 2.01% | 1.24% | |
| 1951 | 18.63% | -2.77% | 21.40% | |
| 1952 | 19.25% | 2.99% | 16.26% | |
| 1953 | 7.85% | 2.08% | 5.77% | |
| 1954 | 24.72% | 7.57% | 17.15% | |
| 1955 | 11.26% | 0.12% | 11.14% | |
| 1956 | 5.06% | -6.25% | 11.31% | |
| 1957 | 6.36% | 3.58% | 2.78% | |
| 1958 | 40.70% | 0.18% | 40.52% | |
| 1959 | 7.49% | -2.29% | 9.78% | 13.74% |
| 1960 | 20.26% | 9.01% | 11.25% | |
| 1961 | 29.33% | 4.65% | 24.68% | |
| 1962 | -2.44% | 6.55% | -8.99% | |
| 1963 | 12.36% | 3.44% | 8.92% | |
| 1964 | 15.91% | 4.94% | 10.97% | |
| 1965 | 4.67% | 0.50% | 4.17% | |
| 1966 | -4.48% | -3.45% | -1.03% | |
| 1967 | -0.63% | -3.63% | 3.00% | |
| 1968 | 10.32% | 1.87% | 8.45% | |
| 1969 | -15.42% | -6.66% | -8.76% | 5.27% |
| 1970 | 16.56% | 15.90% | 0.66% | |

Exhibit___(DCP-1)
Schedule 13
Page 2 of 2

# ANNUAL RISK PREMIUMS IN MR. MOUL'S RISK PREMIUM ANALYSIS

| Year | S&P Utility Index | Public Utility Bonds | Differential | Averages By Decade |
|---|---|---|---|---|
| 1971 | 2.41% | 11.59% | -9.18% | |
| 1972 | 8.15% | 7.19% | 0.96% | |
| 1973 | -18.07% | 2.42% | -20.49% | |
| 1974 | -21.55% | -5.28% | -16.27% | |
| 1975 | 44.49% | 15.50% | 28.99% | |
| 1976 | 31.81% | 19.04% | 12.77% | |
| 1977 | 8.64% | 5.22% | 3.42% | |
| 1978 | -3.71% | -0.98% | -2.73% | |
| 1979 | 13.58% | -2.75% | 16.33% | 1.45% |
| 1980 | 15.08% | -0.23% | 15.31% | |
| 1981 | 11.74% | 4.27% | 7.47% | |
| 1982 | 26.52% | 33.52% | -7.00% | |
| 1983 | 20.01% | 10.33% | 9.68% | |
| 1984 | 26.04% | 14.82% | 11.22% | |
| 1985 | 33.05% | 26.48% | 6.57% | |
| 1986 | 28.53% | 18.16% | 10.37% | |
| 1987 | -2.92% | 3.02% | -5.94% | |
| 1988 | 18.27% | 10.19% | 8.08% | |
| 1989 | 47.80% | 15.61% | 32.19% | 8.80% |
| 1990 | -2.57% | 8.13% | -10.70% | |
| 1991 | 14.61% | 19.25% | -4.64% | |
| 1992 | 8.10% | 8.65% | -0.55% | |
| 1993 | 14.41% | 10.59% | 3.82% | |
| 1994 | -7.94% | -4.72% | -3.22% | |
| 1995 | 42.15% | 22.81% | 19.34% | |
| 1996 | 3.14% | 3.04% | 0.10% | |
| 1997 | 24.69% | 11.39% | 13.30% | |
| 1998 | 14.82% | 9.44% | 5.38% | |
| 1999 | -8.85% | -1.69% | -7.16% | 1.57% |
| 2000 | 59.70% | 9.45% | 50.25% | |
| 2001 | -30.41% | 5.85% | -36.26% | |
| 2002 | -30.04% | 1.63% | -31.67% | |
| 2003 | 26.11% | 10.01% | 16.10% | |
| 2004 | 24.22% | 6.03% | 18.19% | |
| 2005 | 16.79% | 3.02% | 13.77% | |
| 2006 | 20.95% | 3.94% | 17.01% | 6.77% |
| Averages | 11.14% | 5.73% | 5.41% | |
| Standard Deviation | 22.67% | 7.93% | 19.93% | |

Source: Data contained in Exhibit No. PRM-12.